

UNIVERSITY OF ALBERTA



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REPORT
OF
THE GOVERNORS
OF THE
UNIVERSITY OF ALBERTA
1955-56

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To the Lieutenant-Governor in Council

SIR:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the Report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1956, and investments as they stood at the end of the fiscal year.

Appended to this report is the report of the President of the University, in which the academic work of the University for the year July 1, 1955 to June 30, 1956, is dealt with in detail.

C. M. MACLEOD, Chairman
A. STEWART, President

November 30, 1956

Financial Statements

UNIVERSITY OF ALBERTA

STATEMENT A

BALANCE SHEET AS AT MARCH 31, 1956

ASSETS

Building and equipment in service:			
Land, buildings and plant	\$	13,135,759.43	
Furnishings and equipment		2,750,099.53	
			\$ 15,885,858.96
Loan receivable:			
Students' Union re Students' Union building, see contra			278,213.41
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$202,500.00)			197,910.00
Current:			
Cash on hand and in bank	\$	44,594.18	
Accounts receivable:			
Sundry debtors	\$	116,595.30	
Less: Allowance for doubtful accounts		2,500.00	
	\$	114,095.30	
Government of the Province of Alberta re construction of buildings		315,298.04	
			429,393.34
Accrued interest			4,604.16
Merchandise held for resale			109,783.87
			588,375.55
Prepaid expenses:			
Supplies on hand	\$	83,450.94	
Unexpired insurance		33,938.52	
Legal retainer fee		375.00	
Unemployment insurance stamps		315.24	
			118,079.70
Other assets:			
Livestock inventory	\$	24,751.00	
Deposit, Workmen's Compensation Board		8,564.00	
			33,315.00
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,347,800.00	
Provincial debentures, direct and guaranteed		750,500.00	
Corporation debentures		2,800.00	
Corporation shares		23,076.93	
	\$	2,124,176.93	
Cash on hand and in bank		161,124.05	
Loans receivable		76,023.40	
Real estate, shares and sundry, nominal value		8.00	
Due from general account		115,742.89	
			2,477,075.27
			<u>\$ 19,578,827.89</u>
			=====

LIABILITIES

Capital and surplus:			
Capital provided by the Government of the Province of Alberta	\$	13,459,153.10	
Capital surplus		2,506,754.86	
			\$ 15,965,907.96
Loan payable:			
Government of the Province of Alberta re Students' Union building, see contra			278,213.41
Agreement for purchase of leasehold			6,302.55
Current:			
Bank and treasury branch overdrafts	\$	59,466.23	
Accounts payable		190,629.40	
Due to trust account		115,742.89	
			365,838.52
Deferred income:			
Fees	\$	8,165.40	
Other		488.95	
			8,654.35
Reserves:			
Federal aid funds unexpended	\$	230,640.14	
University Athletic Board fees unexpended		26,274.33	
Land exchange		25,079.35	
Library fees unexpended		24,213.46	
Workmen's Compensation Board		10,507.68	
Rink repairs		1,148.16	
Provincial Laboratory of Public Health, operating		67,887.87	
Operating, general		91,084.84	
			476,835.83
Trust:			
General endowment:			
Rockefeller Foundation	\$	500,000.00	
Scholarships:			
Escheated estates	\$	602,825.46	
General		408,219.98	
			1,011,045.44
Research		364,706.55	
Students' grants and loans		106,319.59	
General educational purposes		98,292.82	
Pensions		56,926.02	
Sundry:			
Administered by the University	\$	106,269.73	
Held on behalf of others		233,515.12	
			339,784.85
			2,477,075.27
			<u>\$ 19,578,827.89</u>

Edmonton, Alberta, July 5, 1956

I have audited the books and records of the University of Alberta for the year ended March 31, 1956.

Operating Results

Operations for the year under review resulted in a deficit of \$32,498.45. Details of operations are shown in Statement B.

The deficit for the year has been charged to operating reserve. Transactions within the reserve are set forth in Statement C.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:	
Balance as at April 1, 1955	\$ 12,961,182.03
Add:	
Advances during the year:	
Greenhouse and headhouse	180,925.31
North laboratory	78,521.04
Power plant building	45,895.38
Engineering building	23,886.63
Improvements, buildings and grounds	24,484.83
Equipment	144,257.88
	\$ 13,459,153.10
Capital surplus:	
Balance as at April 1, 1955	\$ 2,506,233.24
Add:	
Acquired from trusts and donated funds:	
Equipment	8,012.16
Library	690.00
Income contributions:	
Buildings	1,604.64
Library	37,178.84
	\$ 2,553,718.88
Deduct:	
Demolitions and disposals	46,964.02
	2,506,754.86
	\$ 15,965,907.96

Subject to the foregoing remarks, I certify that, in my opinion, the attached Balance sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1956, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets for the results of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.,
Provincial Auditor.

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1956

REVENUE

Grants:			
Province of Alberta:			
General	\$	1,860,000.00	
Debt charges, see contra		368,780.79	
	\$	2,228,780.79	
Government of Canada:			
Federal aid		525,804.50	
	\$		2,754,585.29
Fees:			
Tuition	\$	833,526.31	
Examination and special, net		9,517.16	
			843,043.47
Interest on Rockefeller foundation endowment	\$	15,000.00	
Deduct: Transferred to medical research trust		5,000.00	
			10,000.00
Library fees, see contra			36,986.01
University Athletic Board fees, see contra			18,415.74
Operating departments net revenue as per Schedule No. 2			65,516.38
	\$		3,728,528.89

EXPENDITURE

Instructional salaries and direct expenses, net, as per Schedule No. 1	\$	2,392,657.43	
Maintenance of buildings		438,315.77	
Debt charges, see contra		368,780.79	
Library:			
Salaries and expenses, Edmonton	\$	129,682.56	
Salaries and expenses, Calgary		9,728.87	
Provision for library accessions, see contra		36,968.01	
			176,379.44
Administrative salaries and expenses, general			146,347.03
Maintenance of grounds			49,729.00
Other expenses:			
Student advisory services	\$	21,737.19	
Provision for University Athletic Board expenses, see contra		18,415.74	
Calendars, scientific and other publications		12,606.86	
Provost's office		10,779.55	
Alumni office		8,705.32	
Greenhouse salaries and expenses, general		7,704.01	
Pension arrears		5,940.24	
Travelling expenses, instructional staff		5,366.46	
Exchange		310.76	
First year committee		249.96	
			91,816.09
Public service departments, net expenditure, as per Schedule No. 3			97,001.79
	\$		3,761,027.34
Deficit for the year ended March 31, 1956, charged to operating reserve	\$		32,498.45

UNIVERSITY OF ALBERTA

STATEMENT OF OPERATING RESERVE

FOR THE YEAR ENDED MARCH 31, 1956

Balance as at April 1, 1955	\$	131,130.88
Add:		
Adjustment in respect of previous year		291.44
	\$	131,422.32
Deduct:		
Deficit for the year ended March 31, 1956		32,498.45
	\$	98,923.87
Deduct:		
Transfer to Provincial Laboratory of Public Health operating reserve:		
Excess of revenue over expenditure		7,839.03
Balance as at March 31, 1956	\$	91,084.84
		=====

*To the Governors of the
University of Alberta*

GENTLEMEN:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1956.

A. STEWART,
President

President's Report to Convocation

October 29, 1955

In my reports at the Fall Convocations in 1953 and 1954 I was able to refer to the official opening of the Engineering Building and the Agriculture Building. Considerable progress has been made on the new greenhouses, which are now partly occupied, and this substantial addition to the facilities of the Plant Science and Botany Departments will be completed before the end of this year. Some delay has been experienced in completing plans for the Administration Building, but the architects are still hopeful that the added space provided by this building may be available in 1956. The Research Council of Alberta, which has occupied cramped quarters in several University buildings, will soon move into their new building on 87th Avenue. We are pleased that the Council has been afforded these new facilities, and feel sure that their move to the south of the Campus will not affect the close cooperation, which has existed in the past, between the Council and the University.

Further added space for the purpose of the University will be required as student numbers continue to grow. Total registrations in the regular session (day-time) have now reached 4,387, an increase of 270 over 1954-55. In addition to these, there are more than 300 registered in Evening Division courses for credit in Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer and Vegreville. The increase in the past five years has been approximately 1,000. Further, and more rapid, increases are inevitable. I should like to refer particularly to the gratifying increase in the number of students taking courses in the Faculty of Arts and Science, and the Schools of Commerce and Nursing, at the Calgary Branch. This group has practically doubled, from 45 in 1954-55 to 89 this year.

With increasing numbers, the University has been adding to its permanent staff. It is especially interesting to observe the varied backgrounds of the younger men who are coming to the University at this time. They are drawn from other countries, and from many parts of Canada; and have been prepared for their academic duties in many different Universities. This variety is an indispensable quality of a University, enriching the experience of those who attend it.

Similar benefits flow from attendance at the University of students who come here from other parts. The number of overseas students attending the University of Alberta is not large; although there has been a noticeable increase this year. On the Edmonton Campus are almost one hundred students who were born outside Canada and have received much of their education abroad. Over thirty countries are represented in this manner. Most of these persons will remain in Canada, to make their own contribution to our way of life. A considerable number, however, will return to their own countries — where presumably they will occupy posts of some influence and responsibility — having acquired a deeper understanding of Canadian life and character. In this latter group are persons from Great Britain, the United States, Nigeria, the British West Indies, Germany, Syria, Norway, Hong Kong, India, Formosa,

Malaya, Pakistan, Lebanon and Switzerland. No one can doubt the educational value, to Alberta students, of living with young people representing such widely differing cultures, but sharing with them the common aspirations of youth.

At this Convocation we remind ourselves of the history of our Province, and honour those who helped to create it — the priests, the teachers, and the workers on the land. We are privileged to live in a society, colorful, zestful, dynamic. These qualities we owe to the amazing variety of our physical environment, to the diversity of origins and attitudes of our people, and to our heritage of institutions furthering freedom of thought, interchange of ideas, and movement of people. We remember with gratitude those who have created here the kind of society in which a University can flourish, and, if it is true to its purpose, can make its finest contribution.

President's Address to Convocation

May 17, 1956

The University Act requires that, annually, a report from the Board of Governors be presented to the Legislature. In addition to the financial statement and detailed statistics on registrations, the Governors' Report includes a record of the activities of the Departments, Schools and Faculties. The President's Report to Convocation, which, from the nature of this occasion, will be brief, is included in this document.

The report which I am about to make should cover all those aspects of the work of the University which are common to its parts or which bridge the Faculties. Within the organization of the University, unity — and uniformity where necessary — is preserved by General Faculty Council, the Deans' Council, the Senate, and the Board of Governors; and by the work of a very considerable number of standing and *ad hoc* committees which report to these bodies either directly or through the President.

At this time the most pressing problem confronting this University, and all universities in Canada, is that of devising ways and means, consistent with the needs of the community and the functions of the University, to meet the increase in students which is already upon us, and which will accelerate in the years immediately ahead.

Preliminary enquiry into the problem of numbers was undertaken by an *ad hoc* Committee on Affiliations. The Committee prepared estimates of future enrolments based on the numbers in attendance in the schools. Its most significant contribution lay in those recommendations which pointed to a policy of gradual decentralization of University facilities. The principle of decentralization was subsequently approved by the Senate and Board of Governors.

It cannot be the policy of the University to relieve pressures by restriction of admissions. It can be said unequivocally that the University is not satisfied with the present bases of selection of students. Too many students who are admitted find it impossible, under conscientious direction from their instructors, to meet reasonable requirements for promotion. This problem is under con-

tinuing study within the University and by the Joint Committee to Coordinate University and High School Curricula. A considerable amount of research must be done if more effective methods of selection are to be devised.

A report has now been received from the Senate Committee on Financial Assistance to students. We do not know how many competent students fail to reach University; but the number is probably large. Although the cost of University education is not the only factor, it must be important in many cases. A number of Canadian universities have found it necessary to raise fees this year; and in 1956-57, fees at the University of Alberta will be increased, on the average, about five percent. This increase can easily be borne by many families. However, unless financial capacity is to be a major determinant of admission to University, more funds must be available to meet the needs of particular students among the increasing numbers coming forward.

On the request of the Government of the Province that the University submit a long range plan of building requirements, the Space Survey Committee was reconvened and has been giving its best thought to this aspect of the problem. Provision has been made to commence construction of the Administration Building and the Biological Science Wing this year; and the proposed construction of a wing to the Provincial Laboratory of Public Health will bring some further relief from the immediate pressures on space in Edmonton.

In the meantime negotiations are proceeding with the City of Calgary for the leasing and ultimate transfer, of land to the University for expanding facilities there. We hope these negotiations will be completed within a few days. The Space Survey Committee will recommend the construction of buildings in Calgary as these will be required to meet the over-all expansion of numbers.

Within the general policy of decentralization at the junior level, the University is interested in the proposal for a Community College at Lethbridge. The proposal is under consideration by the Department of Education. The University is involved to the extent that the College would offer instruction in courses for University credit.

The problem confronting the University is the same problem which the schools have had to meet. School boards have had to construct new buildings. This has presented difficulties; but the shortage of qualified teachers has been even more perplexing. The University experience will be the same. The members proceeding through the graduate schools reflect the low birth rate of the 1930's, and are depleted by the expanding demands of industry. The search of the universities for additional staff will not add to the number of qualified persons; and no significant increase in the supply can be expected for several years. The competitive situation is apparent to the Board of Governors through the increased number of resignations and the obvious difficulty of filling many vacancies.

The problem of staff is, and will remain most acute in the scientific and technological fields. This brings us back, in a long run attack on the problem, to consideration of the qualifications for admission to the universities. Much is being heard today about technological education in the U.S.S.R. We cannot and should not attempt merely to duplicate what is being done there. However, we must be conscious of our own needs. If, in North America, we are

to meet the rapidly expanding requirements for scientists and technicians, our educational systems must give more, rather than less, emphasis to mathematics and the basic sciences, and must seek to stimulate the interests of young people in these disciplines.

I must refer to one other Committee. Classes opened at the University of Alberta, in temporary facilities, in 1908. The staff included five very remarkable people. The first of these to be appointed—Dr. W. H. Alexander—has survived the years; and Dr. McEachran is with us to-day. The record is one of continuing expansion of staff and facilities, and of widening service to the people of the Province. We will celebrate our fiftieth anniversary in 1958. The Jubilee Committee is already busy on plans to mark the occasion. We solicit the interest of all Alumni and of the citizens of the Province in this event.

Each year we lose through the normal process of retirement some members of the staff with long service to the University. This year we acknowledge our debt to Miss Mabel Patrick, Dr. William Rowan, and Professor L. H. Nichols. Miss Patrick joined the staff in September, 1918. Her colleagues at that time included only two who are still with us—Dr. R. Sandin and Dr. A. J. Cook. Dr. Rowan was appointed in 1920 and Professor Nichols in 1922. In administration, in research, and in teaching they have left their imprints on the record of this University, and on the lives of very many students.

Appended are tabular data concerning academic staff numbers; academic staff appointments and promotions; leave of absence; retirements, resignations; gifts; new scholarships, prizes and medals; staff publications, student registration; and reports of administrative officers.

Table I—Academic Staff Numbers

Administrative Officers

President	1
Assistant to the President	1
Deans of Faculties	8
Directors of Schools	6
Director of the Calgary Branch	1
Assistant Director of the Calgary Branch	1
Director of the Summer Session	1
Provost	1
Assistant Provost, Calgary Branch	1
Director of Student Advisory Services	1
Dean of Women	1
Librarian	1
Superintendent of the University Hospital	1
Registrar	1
Associate Registrar	1
Assistant to the Registrar	1
Alumni Secretary	1
Bursar	1
Accountant	1
Assistant Accountant	1
Purchasing Agent	1
Wardens of Residence Halls	3

Full-Time Teaching Staff

Professors	62	
Associate Professors	99	
Assistant Professors	60	
Lecturers	21	
Instructors	1	
		243

On leave of absence:

Professors	2
Associate Professors	5
Assistant Professors	4
Lecturers	nil

Part-Time Teaching Staff

Professors	8	
Associate Professors	8	
Clinical Professors	1	
Assistant Professors	8	
Associate Clinical Professors	2	
Assistant Clinical Professors	15	
Lecturers	60	
Instructors	85	
Demonstrators in the Faculty of Education	185	
Demonstrators and Student Assistants	150	
		532

Department of Extension

Director	1	
Assistant Professors	2	
Agricultural Secretary	1	
Supervisor of Visual Instruction	1	
Librarian	1	
		6

Library

Librarian	1	
Assistant Librarian		
Assistants	17	
		18

Industrial Laboratories

Director and Provincial Analyst	1	
Assistant	1	
		2

Provincial Laboratory of Public Health

Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	
Provincial Pathologist	1	
Assistants	3	
		6

Other Staff

Dietitians	3	
Radio Secretary	1	
		4

Total	847
Less duplicates	35
<i>Total Academic Staff</i>	812

Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

- James Alexander Robertson, B.S.A., M.Sc., Assistant Professor of Soil Science.
- Ambrose Zitnak, M.Sc., Ph.D., Chief Analyst in Soil and Feed Testing Laboratory.
- William George Corns, M.Sc., Ph.D., from Associate Professor to Professor of Crop Ecology.
- Charles Fred Bentley, M.Sc., Ph.D., from Associate Professor to Professor of Soil Science.
- Saul Zalik, B.S.A., M.Sc., Ph.D., from Assistant to Associate Professor of Plant Physiology and Biochemistry.

Faculty of Arts and Science

- Avadh Behari Bhatia, M.Sc., D.Phil., Ph.D., Assistant Professor in Physics.
- Vernon Berger Haarstad, B.Sc., Sessional Instructor in Chemistry.
- James Francis Hanlan, B.Sc., Sessional Instructor in Chemistry.
- John Winstanley Bilsland, M.A., Lecturer in English.
- Maurice Rabotin, Licence ès Lettres, Exchange Fellow in French.
- James Rudsdale Pounder, M.A., Assistant Professor of Mathematics.
- Albert Harold Lightstone, B.Sc., M.A., Lecturer in Mathematics.
- W. E. Grasham, B.Sc., M.A., Sessional Instructor in Political Science.
- Maurice John Boote, B.A., Assistant Professor of Economics.
- George Ferno MacDowell, B.A., A.M., Assistant Professor of Economics.
- Gordon Bruce Peacock, B.Ed., M.A., Assistant Professor of Drama.
- Joan C. Laird, Sessional Instructor in English.
- Donald MacKenzie Schurman, M.A., Assistant Professor of History.
- Irwin Guttman, B.Sc., M.A., Ph.D., Associate Professor.
- Arthur John Bates Hough, L.Th., B.A., M.A., Assistant Professor of Psychology.
- Frank F. Bueckert, B.Ed., A.M., Lecturer in Drama.
- Alison Genevieve White, Ed.B., M.A., Ph.D., Assistant Professor of English.
- Arleigh Howard Laycock B.A. M.A., Lecturer in Geography.
- Percival Sydney Warren, B.A., A.R.C.S., Ph.D., F.R.S.C., Special Lecturer in Geology.
- Edward Norman Yates, A.O.C.A., Lecturer in Art.
- Heinz Helfenstein, M.Sc., Ph.D., from Lecturer to Assistant Professor of Mathematics.
- Richard Stephen Eaton, Mus.B., from Associate Professor to Professor of Music.
- Max Wyman, B.Sc., Ph.D., F.R.C.S., from Associate Professor to Professor of Mathematics.
- Grant Robert Davy, B.A., M.A., from Assistant to Associate Professor of Political Science.
- Avadh Behari Bhatia, from Assistant to Associate Professor of Physics.

Reginald Charles Jacka, B.Sc., M.S., from Assistant to Associate Professor of Mathematics.

George Samuel, M.A., from Assistant to Associate Professor of French.

George Klaus Horton, B.Sc., A.R.C.S., M.Sc., Ph.D., from Assistant to Associate Professor of Mathematics.

Charles Herald Moore, B.A., Docteur de l'Université de Paris, from Lecturer to Assistant Professor of French.

John Derrick Godfrey, B.Sc., M.S., from Lecturer to Assistant Professor of Geology.

Lawrence Clinton Walker, B.A., M.S., Ph.D., from Lecturer to Assistant Professor of Social Psychology.

School of Commerce

Ben Aksel Lindberg, B.M.E., M.E., Professor of Business Administration and Director of School of Commerce.

William Blain, B.Com., Lecturer in Business Administration.

Faculty of Dentistry

R. C. Sills, D.D.S., Sessional Instructor in Prosthetic Dentistry.

Faculty of Education

Walter Worth, B.Ed., M.Ed., Assistant Professor.

Ethel King, B.Ed., M.Ed., Lecturer, Calgary.

Doris Baker, B.A., B.Ed., M.Ed., Lecturer.

Russell Stewart MacArthur, B.Ed., M.Ed., Ph.D., Associate Professor.

Sidney Axel Lindstedt, B.Sc., Associate Professor, Calgary.

Leola Ford, B.A., M.S., Ph.D., Lecturer, Calgary.

Herbert Edgar Smith, B.A., M.A., M.Ed., Ph.D., Special Lecturer in Education.

Herbert Thomas Coutts, B.A., M.A., Ph.D., Dean, Faculty of Education.

Harold Stewart Baker, B.A., M.A., Ph.D., L.A.B., from Associate Professor to Professor of Education and Head of the Division of Secondary Education.

Harry Theodore Sparby, M.A. from Associate Professor to Professor of Education.

Theophilus George Finn, B.A., A.M., Ed.D., from Associate Professor to Professor.

Joseph Gowanloch Woodsworth, B.A., B.Ed., Ed.D., from Assistant to Associate Professor of Education (Calgary Branch).

Robert Johnston Craig Harper, M.A., M.A., from lecturer to Assistant Professor in Education.

Faculty of Engineering

James Gordon Parr, B.Sc., Ph.D., Associate Professor of Metallurgy.

William Edward Curtis, Sessional Lecturer in Civil Engineering.

Brian Patrick Shields, Sessional Lecturer in Civil Engineering.

Allan W. Peterson, Sessional Lecturer in Civil Engineering.

Robert Arthur Ritter, B.E., M.Sc., Assistant Professor of Chemical Engineering.

James Stewart Kennedy, B.Sc., M.Sc., Assistant Professor of Applied Mechanics.

D. A. Currie, Special Lecturer in Mining Engineering.

P. H. Hwang, Sessional Instructor in Chemical Engineering.
J. Slupsky, Sessional Instructor in Chemical Engineering.
Kenneth George Clarke, B.Sc., Assistant Professor in Electrical Engineering.
James Baird Haddow, B.Sc., Assistant Professor in Mechanical Engineering.
H. W. Habgood, M.Sc., Ph.D., Special Lecturer in Chemical Engineering.
Gerald Wesley Sadler, B.Sc., M.Sc., to Superintendent of Buildings and Associate Professor of Mechanical Engineering.
Leonard Eustace Gads, B.Sc., from Associate Professor to Professor of Civil Engineering.
Patrick Bouthillier, B.Sc., S.M., from Assistant to Associate Professor of Civil Engineering.
Jacobus Petrus Verschuren, C.E., from Lecturer to Assistant Professor of Civil Engineering.

Extension

Mary Isobel Dodds, B.Com., M.S., Acting Extension Librarian.

School of Household Economics

Joyce Lister, B.Sc., Assistant Dietitian, University Residences.
Florence Wilson, Sessional Lecturer in Foods and Nutrition.
Baunita Young, B.Sc., from Assistant Dietitian to Dietitian, University Residences.

Faculty of Law

Douglas Sherbaniuk, B.A., LL.B., Assistant Professor of Law.
Angus Gordon MacDonald, B.A., LL.B., Sessional Instructor in Law.
Lennox Allister MacLean, B.A., LL.B., Sessional Instructor in Law.
Ammon Olsen Ackroyd, B.Ed., Sr. Dip., LL.B., Sessional Instructor in Law.
John Douglas Park, B.A., LL.B., Sessional Instructor in Law.
Harris Gillespie Field, B.A., LL.B., Sessional Instructor in Law.

Library

Leona Thomson, B.A., B.L.S., Library Assistant.
Louise Range, B.A., B.L.S., Library Assistant.
Norma Elizabeth Freifield, B.A., B.L.S. from Librarian Grade II to Grade III.
Lilian Emily Mary Leversedge, B.A., B.L.S., from Librarian Grade II to Grade III.
Denys Noden, M.A., B.L.S., from Librarian Grade I to Grade II.
Yvonne Fenton, B.A., A.L.A., from Librarian Grade I to Grade II.
Lois Jacqueline Carrier, B.A., B.L.S., from Librarian Grade I to Grade II.

Faculty of Medicine

James William Pearce, M.D., C.M., D.Phil., Professor of Physiology.
Joan Daphne Witney, B.Sc., M.D., C.M., Sessional Instructor in Paediatrics.
Alexander Hercules Christensen, B.Sc., M.D., Instructor in Pathology.
Mary Adan Morrison, M.S.W., Sessional Instructor in Psychiatry.
John Carter Callaghan, M.D., B.Sc., (Med.) Teaching Fellow in Surgery.
Robert James Johnston, B.Sc., M.D., F.R.C.S.(C), Instructor in Clinical Surgery.
Ludwik Sherman, M.B., Sessional Instructor in Clinical Medicine.
Tatsuo Yamamoto, M.Sc., Instructor in Bacteriology.
Sheila Alice Berry, B.Sc., Instructor in Bacteriology.
Glenn Marvin Martin, M.D., C.M., Sessional Instructor in Biochemistry.

Lawrence B. Smillie, B.A., M.A., Assistant Professor of Biochemistry.
 William T. Boyar, M.D., Sessional Instructor in Surgery.
 Raymond W. Duncan, M.D., Sessional Instructor in Surgery.
 Louis G. Ayotte, M.D., Sessional Instructor in Surgery.
 Gordon Cameron, M.D., Sessional Lecturer in Anatomy.
 D. J. Moffat, M.D., Sessional Instructor in Anaesthesia.
 N. W. Nix, M.D., Sessional Instructor in Anaesthesia.
 Robert Stewart Fraser, B.Sc., M.D., M.Sc., F.R.C.P.(C), Associate Professor of Research under Muttart Fellowship.
 Adam S. Little, M.D., Teaching Fellow in Medicine.
 Louis Emile Beauchamp, B.S., M.D., from Instructor to Lecturer in Paediatrics.
 Lloyd Carl Grisdale, B.Sc., M.D., from Instructor to Lecturer in Paediatrics.
 Heman Brock Armstrong, B.Sc., M.D., from Instructor to Lecturer in Paediatrics.
 Donald Forbes Cameron, M.B.E., m.i.d., B.A., M.D., from Sessional Demonstrator to Sessional Lecturer in Physiology.
 Sidney Spaner, B.A., M.D., from Assistant Clinical Professor to Clinical Professor and Head of Department of Psychiatry.
 Alexander Donald MacPherson, M.D. from Lecturer to Assistant Clinical Professor of Psychiatry.
 Harvey Leslie Hogge, B.Sc., from Sessional Instructor to Lecturer in Preventive Medicine.
 George Leslie Willox, M.D., F.R.C.S.(C), F.A.C.S., from Lecturer to Assistant Clinical Professor of Surgery.
 Bohdan Michalyshyn, M.D., F.A.C.S., from Lecturer to Assistant Clinical Professor of Surgery.
 Donald Cooper Johnston, M.D., from Instructor to Lecturer in Orthopaedic Surgery.
 Robert Robertson Francis, B.A., M.D., F.R.C.S.(C), F.A.C.S., from Instructor to Lecturer in Urologic Surgery.
 James Overgard Metcalfe, B.Sc., M.D., F.R.C.S.(C), from Instructor to Lecturer in Urologic Surgery.
 Colin Andrew Ross, M.D., F.R.C.S.(C), from Sessional Instructor to Instructor in Clinical Surgery.
 Kenneth Andrew Connal Clarke, M.C., B.Sc., M.D., from Instructor to Assistant Clinical Professor of Rhino-Oto-Laryngology.
 William Sloane Seale Armstrong, M.D., C.M., from Lecturer to Assistant Clinical Professor of Rhino-Oto-Laryngology.
 John Winston Duggan, M.D., M.M.S., F.R.C.S.(C), F.A.C.S., from Instructor to Lecturer in Ophthalmology.
 Robert Lawrence Wiggins, B.A., M.D., F.R.C.S.(C), from Instructor to Lecturer in Ophthalmology.
 Willam Douglas Frew, M.B., Ch.B., D.R.C.O.G., F.R.C.S.(C), F.A.C.S., from Instructor to Lecturer in Obstetrics.
 Douglas Campbell Ritchie, B.Sc., M.D., F.A.C.S., from Instructor to Lecturer in Obstetrics.
 Donald Munns Bell, M.D., F.R.C.S.(C), from Instructor to Lecturer in Obstetrics.
 Eby Quehl, m.i.d., M.D., M.R.C.O.G., from Instructor to Lecturer in Obstetrics.

John Angus Boyd, B.A., M.D., from Sessional Instructor to Instructor in Obstetrics.

Hector Ewart Duggan, M.D., from Assistant Clinical Professor to Clinical Professor and Head of the Department of Radiology.

Andrew Cairns, M.D., from Sessional Instructor to Instructor in Clinical Medicine.

Floyd Silas Beverly Rodman, M.Sc., Ph.D., from Lecturer to Assistant Clinical Professor of Therapeutics.

James Alan Longmore Gilbert, M.B., Ch.B., M.D., F.R.C.P., M.R.C.P., F.R.C.P.(C), from Assistant Clinical Professor to Clinical Professor of Medicine.

James Scott Thompson, B.A., M.A., M.D., from Associate Professor to Professor of Anatomy.

School of Physical Education

Orville Murray Wenstob, Sessional Lecturer.

Stephen Mendryk, B.Ed., in Phys Ed., Lecturer.

Herbert John McLachlin, B.Sc. in Physical Education, M.S., from Assistant to Associate Professor of Physical Education.

Administration

Murray Alexander Rousell, B.Com., C.A., from Associate Professor to Professor rank.

Table III—Leave of Absence

Dorothy Lampard, B.A., M.A., Assistant Professor of Education.

Lobita Wilson, B.A., M.A., Lecturer in Psychology.

Henry Bertram Mayo, M.A., D.Phil., Professor of Political Science.

Earl William Buxton, B.A., B.Ed., M.A., Associate Professor of Education (Calgary Branch).

Wilfred Watson, B.A., M.A., Ph.D., Associate Professor of English.

William Mackenzie, B.Sc., B.Litt., M.S., Associate Professor of Economics.

Hector Robert MacLean, D.D.S., F.A.C.D., F.I.C.D., Professor of Operative Dentistry.

Harry Theodore Sparby, B.Sc., M.A., Associate Professor of Education.

David Panar, M.Sc., Associate Professor of Mechanical Engineering.

Stuart George Davis, M.Sc., Ph.D., Associate Professor of Chemistry.

William Donald Smith, B.P.H.E., M.A., Associate Professor of Physical Education.

John Benjamin Taylor, A.O.C.A., Assistant Professor of Art.

Alexander Smith, B.A., LL.B., Professor of Law.

John Alfred Toogood, B.Sc., Ph.D., Associate Professor of Soil Science.

Table IV—Retirements

Gertrude Cornelia Higgin, B.A., L.R.S.M., Associate Professor of Education.

Herbert Edgar Smith, B.A., M.A., M.Ed., Ph.D., Professor and Dean, Faculty of Education.

Albert Stephen Ward, B.S.A., M.Sc., Assistant Professor of Soil Science.

Percival Sydney Warren, B.A., A.R.C.S., Ph.D., F.R.C.S., Professor of Geology.

Table V—Resignations

Frank James Hastie, B.Sc., Associate Professor of Electrical and Mechanical Engineering and Superintendent of Buildings.

Gordon Fraser Sleigh, M.A., B.Litt., Lecturer in English.
 Marjorie Sherlock, B.A., M.A., B.L.S., Librarian to the University.
 Melba Mae Wilson, B.A., B.L.S., Library Assistant.
 Arthur Bennett Lamb, B.Sc., M.Sc., M.C.I.C., Assistant Professor of Bacteriology.
 Andrew Lee Scott, B.A.Sc., M.A.Sc., Assistant Professor of Chemical Engineering.
 Charles Lefebvre, M.D., Instructor in Clinical Medicine.
 Ronald William Nablo, B.A., Supervisor, Division of Visual Instruction, Department of Extension.
 Robert L. Wiggins, M.D., Lecturer in Ophthalmology.
 Gerald Goodall-Copesteake, B.A., D.M.R.D., M.R.C.S., L.R.C.P., Instructor in Radiology.
 Dorothy Edith Ryder, B.A., B.L.S., Library Assistant.
 Flora Macleod, M.A., B.L.S., Extension Librarian.
 James Mills Shipley, B.A., LL.B., B.L.S., Law Librarian.

Table VI—Gifts

From the Merrill Muttart Foundation, annual contribution of \$6,000 for Medical Research.

From Mrs. Irene Gonsett, \$750 for purchase of books for the Gonsett Collection.

From Messrs. A. Reyrolle & Co. Ltd., England, protective gear for electrical transmission lines, valued at over \$1,000, to Department of Electrical Engineering.

From Mr. N. D. McDermid, \$1,000 towards a trust fund being set up in his name by the University.

From Eli Lilly & Co., \$1,800 for research under Dr. M. J. Huston.

From John & Mary R. Markle Foundation, \$6,000 for the third year of the Foundation's scholarship.

From the Barley Improvement Institute, \$3,500 for research in the Department of Plant Science.

From the Dominion Department of Labor, \$900 for research in Department of Political Economy.

From Mr. Sidney Fisher, \$900 for the purchase of a Fourth Folio of Shakespeare.

From the Smith, Line & French Laboratories, \$1,800 for research under Dr. M. J. Huston.

From the Ciba Company Ltd. \$300 for microphotographs of crystals and alkaloids, Faculty of Pharmacy.

From the Maple Leaf Milling Co., \$500 for research on Soft Wheat.

From Mr. D. S. Harvie, \$100 to add to the permanent collection of paintings, Banff School of Fine Arts.

From Dr. J. A. Romeyn, \$50 for the purchase of books on Ophthalmology for the library.

From the Canadian Foundation for the Advancement of Pharmacy, \$1,200 for a teaching fellowship in Pharmacy.

From the Egerton Pope Reporting Club, \$75 to the Medical Loan Fund.

From the Geophysical Associates of Canada, completely equipped Geophysical truck.

From Mr. Eric Harvie, \$100 to the Banff School of Fine Arts.

From the Dominion Department of Mines and Technical Surveys, \$2,150 for research in Department of Geology.

From the Ellison Milling & Elevator Company, \$250 for research on Soft Wheat.

From the Alberta Seed Growers' Cooperative Ltd., \$500 toward Alfalfa research.

From Glenbow Investments Ltd., \$3,000 towards Alfalfa research.

From Imperial Oil Ltd., \$1,676.12 being final payment on an Imperial Oil Investment Study conducted by Department of Political Economy.

From Mr. W. J. Dick, Commission Chairman, a copy of "The Co-terminous Boundary Commission Reports" to the Library.

From Mr. D. E. Lewis, a copy of the three-volume work "Canadian Oil and Gas" of which he is co-author.

From the Department of Agriculture, Province of Alberta, \$1,000 for Soil and Feed Testing Laboratory.

From the Western Division, United Grain Growers Ltd., \$300 for nutritional research on turkeys.

From Calgary Power Ltd., \$100.00 for the purchase of a system analyser in Department of Electrical Engineering.

From the Ukrainian Ladies' Aid, St. John's Orthodox Church, \$25 to the Ukrainian book collection.

From Dr. C. Megas, \$50 to Medical Class of 1941 Loan Fund.

From Dr. H. Baden-Powell, \$50 to the Post Graduate Scholarship Fund in Dentistry.

From S. J. Helman, a set of 150 volumes entitled "Revised Reports" to the Law Library.

From the Edmonton Hospital Pharmacists' Association, \$25 to the Faculty of Pharmacy.

From the Interprovincial Cooperatives Ltd., \$500 towards work in soil research.

From the College of Physicians and Surgeons, \$600 to the Medical Library.

From Mr. D. S. Harvie, \$57 for brass title plates for the additions to the Permanent Collection of Paintings at the Banff School.

From Imperial Oil Ltd., geophysics equipment for the Department of Physics.

From Canadian Industries Ltd., \$5,500 for research under direction of Dean Hardy.

From Pfizer Canada Division, Pfizer Corporation \$25; Charles E. Frosst & Co. \$75; Sandaz (Canada) Ltd. \$50; Burroughs Wellcome & Co. (Canada) Ltd. \$50; to the Department of Physiology and Pharmacology.

From the Alberta Chapter of the Canadian Foundation for Poliomyelitis, \$200 to the Rutherford Library for medical books and periodicals.

From the Alberta Tuberculosis Association, \$200 to the Rutherford Library.

From Imperial Oil Ltd., \$13,000 being first payment on a total grant of \$26,000 to cover the cost of a study of the oil industry under Dr. E. J. Hanson.

From the Edmonton Civic Employees, \$10,000 for the McEachern Cancer Research Laboratory.

From Robin Hood Flour Mills Ltd., \$500 for research on Soft Wheat.

From the Canadian Institute of Timber Construction, \$150 for an investigation of laminated wood beams.

From the United Grain Growers Ltd., \$500 in support of oil seed research.

From Dr. Lorne Pierce, \$500 to establish Bliss Carman award for ballad and lyric poetry at the Banff School of Fine Arts.

From Sherritt Gordon Mines Ltd., \$1,700 and from Harrisons and Crosfield (Canada) Ltd. \$500, being second annual instalments for research on the uses of nitrogen as a fertilizer.

From Unesco, through the International Association of Meteorology, Radiation Commission, \$799 for a radiation standard study.

From Canadian Industries Ltd., \$500 for the wildlife conservation project.

From the Carnegie Corporation of New York, \$13,500 being first payment for the development of educational research.

To the Friends of the University, \$5,342.

From the Canadian Cancer Society, Alberta Division, \$12,396.19 for research at the University.

From the National Cancer Institute of Canada, \$11,562.26 for research and equipment at the University.

To the Alberta Educational Research Fund, \$2,159.

From the Department of National Defence, \$12,600 for research projects at the University.

From the Department of Agriculture, Government of Canada, \$23,450 for research in the Faculty of Agriculture.

From the National Research Council, \$90,871.38 for research projects at the University.

To the Banff Scholarship Fund, \$1,030.

Table VII—New Scholarships and Prizes

From the Women's Auxiliary to the Calgary Druggists' & Drug Travellers' Association, \$50 prize for outstanding merit in the pharmacy courses of the first year.

From the Schlumberger Well Surveying Corporation, a \$500 scholarship with matching grant of \$500.

From the Shell Oil Company, an additional grant of \$500 to accompany scholarship.

From Dr. & Mrs. F. J. Folinsbee, the James Patrick Folinsbee Memorial Prize in Creative Writing of \$100.

From the Canadian Foundation for the Advancement of Pharmacy, an entrance bursary of \$250, Faculty of Pharmacy.

From Burroughs Wellcome & Co. (Canada) Ltd., a scholarship in Pharmacy of \$250.

From the Alberta Teachers' Association, 11 scholarships of \$500 each.

From the International College of Dentists, a \$100 scholarship to a student completing the third year in Dentistry.

From the Alberta Dairymen's Association, a scholarship of \$500 in Dairying.

From the Alumni Association, a prize of \$100 for the most outstanding work done in any medium within the Art Department.

From the College of Physicians and Surgeons, an increase in their research fellowship from \$1,000 to \$1,200, plus payment of third year medical fees.

The Canadian Feed Manufacturers Association (Alberta Division) scholarship of \$150 to a third year student in Agriculture majoring in nutrition in the Department of Animal Science.

Alberta Branch of the Canadian Seed Growers' Association Scholarship of

\$150 to a third year student in Agriculture majoring in the Department of Plant Science.

From Dr. J. W. Pearce, The Ardrey W. Downs Prize in Physiology of an instrument useful in medical practice to a medical student who obtains the highest mark in physiology of the first and second years.

From the Alberta Home Economics Association, the Mabel Patrick Scholarship in Household Economics of \$100.

Mobil Oil Scholarship in Geology and Petroleum Engineering decreased from \$500 to \$400, but with an additional grant to the University of \$400 in each case.

Shell Oil Fellowship, an additional grant to the University of \$500.

Cominco Graduate Research Fellowship, increase in grant-in-aid from \$200 to \$400.

The Alberta Dental Association Scholarship of \$300 in the pre-professional course provided that the student enters first year Dentistry and his overall average is 75% or higher.

From the Association of Professional Engineers of Alberta, the John A. Allan Memorial Scholarship in Geology of \$200 to the student obtaining the highest average standing in all the prescribed courses of first year Geology.

The Association of Professional Engineers of Alberta Gold Medal in Geology to the student with the highest general standing in final year of Geology.

From the Calgary Section of the Council of Jewish Women, \$100 scholarship to the student making the highest standing in first year Education, Calgary Branch.

From the Calgary French Alliance, two prizes of \$15 each to the students coming from high school with the highest marks in French, who plan to continue with French at Calgary Branch.

Increase in the James McNish Chalmers Memorial Prize given by Miss Clare McKinlay from \$35 to \$50.

Four Hudson's Bay Co. Merchandising awards of \$100 each to four students completing second year Commerce.

From the American Women's Club, a bursary of \$500 in Physiotherapy.

Table VIII—Staff Publications

Department of Agricultural Engineering

Lawrence, R. P. and Stephanson, B.T., Farm Safety, Agr. Inst. Rev. 10(6): 30-32. 1955.

MacHardy, F. V. and Clandinin, D. R. Laying-House Plan. Farm Plan No. 1 Reprint, 1955.

Department of Anatomy

Thompson, J. S. The University of Alberta Faculty of Medicine, Can. Med. Assoc. Journal, 73:129, 1955.

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Department of Animal Science

Berg, R. T. The place of the progeny test in sire selection. Proc. Can. Soc. An. Prod. pp. NIII-1-8. 1955.

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swine fed an antibiotic supplement and/or Vigofac. *Proc. Am. Soc. An. Prod.*, p. 1243. 1955.

McElroy, L. W. More brandable beef from hay or silage and pasture. *Can. Cattlemen*. February, 1956.

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Department of Bacteriology

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Carmichael, J. W. Lacto-Fuchsin, a New Medium for Mounting Fungi. *Mycologia*, 47, 116, 1955.

Carmichael, J. W. The Cellophane Technique for Studying Morphology and Hyphal Fusions in Fungi. In press, *Mycologia*.

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Carmichael, J. W., G. Bain, and J. F. Elliott. Coccidioidomycosis — Case Report and Diagnostic Method. In press, *Can. Med. Assoc. J.*

Myers, G. E. The Effect of a new Antiseptic (1:6-di-4'-chlorophenyl-diguanidohexane) on Skin Flora. *Can. J. Microb.*, 2, 87, April 1956.

Stirrat, J. H., J. McLintock, G. W. Schwindt, and K. R. Depner. Bacteria Associated with the Wild and Laboratory-reared Horn Flies, *Siphona irritans* (L) (Diptera: Muscidae), *J. Parasit.*, 41, 398-406, August 1955.

Stuart, R. D. The Importance of Urinary Antibodies in the Diagnosis of Leptospirosis. *Can. J. Microb.*, March 1956.

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Department of Biochemistry

Collier, H. B., and Sheila C. McRae. Antioxidants as inhibitors of linoleate oxidation catalyzed by plant lipoxidase and by hemolyzates of human erythrocytes. *Can. J. Biochem. Physiol.* 33: 773-779, 1955.

Kovacs, L., and J. Tuba. A note on the energy of activation of the amylase in various body fluids. *Can. J. Biochem. Physiol.* 34: 6-9. 1956.

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Department of Botany

Cormack, R. G. H. The effect of extreme shade upon leaf form and structure in *Vivia americana*. *Canad. Jour. Bot.* 33: 293-297. 1955.

Cormack, R. G. H.. Action of pectic enzymes on surface cells of living Brassica roots. *Science* 122: 1019-1020. 1955.

Kennedy, Lorene L. *Dacrymyces palmatus*. *Mycol.* 48: No. 2. 1956.

Moss, E. H. The vegetation of Alberta. *Botanical Rev.* 21: 493-567. 1955.

Department of Chemical and Petroleum Engineering

Eng., J., Govier, G. W., Quon, D., "The Air-Blowing of Redwater Asphalt Base Stock", *Can. J. Tech.* 33: 360-377, 1955.

Department of Chemistry

Betts, R. H., Harris, W. E., and Stevenson, M. D. The Partial Separation of Na^{22} from Na^{24} by Ion Exchange Chromatography. *Can. J. Chem.* 34: 65. 1956.

Brown, J. J. and Brown, R. K. The preparation of O- and p- Acetaminobenzaldehydes. *Can. J. Chem.* 33: 1819. 1955.

Brown, R. K., Snider, R. F. and Stevenson, M. D. Some Indole Derivatives tested for Antitubercular Activity. *J. Or. Chem.* 21: 261. 1956.

Dunford, H. B. and Morrison, J. L. The Heat of Wetting of Silk Fibroin by Water. *Can. J. Chem.* 33: 904. 1955.

Department of Civil and Municipal Engineering

Hardy, R. M., "Diagnosis and Treatment of Slide Conditions Affecting Highway", *Roads and Engineering Construction*, October 1955, pp. 151-156. 1955 Proceedings *Can. Good Roads Assoc.*, pp. 107-113.

Hardy, R. M., "Engineering Characteristics of Western Muskeg", *Proceedings of the Western Muskeg Research Meeting March 2, 1955, National Research Council of Canada Technical Memorandum No. 38, Sept. 1955.*

Blench, T., "Practical Regime Theory Design of Artificial Channels with Self-Adjustment Boundaries". *ASCE Conference at St. Louis. June, 1955.*

Blench, T., "Regime Formulas for Bed-Load Transport". *Proceedings International Association for Hydraulic Research. Sept., 1955.*

Ford, G. and Morrison, I. F. *Physical Properties of Solid Materials.* Hamly Press.

Department of Dairying

Thornton, H. R. Canadian Dairy Research. *Can. Dairy and Ice Cream J.*, 34(7): 29-31, 66, 68. July, 1955.

Wood, F. W. and Thornton, H. R. Colour Variations in Alberta Butters. *Can. Dairy and Ice Cream J.* 34 (10): 33-36. October, 1955.

Wood, F. W. and Thornton, H. R. A Laboratory Continuous Buttermaking Machine. *Can. Dairy and Ice Cream J.* April, 1956.

Faculty of Education

Articles

Baer, G. F. A. Do We Educate for Democracy? *A.T.A. Magazine*, Vol. 36, No. 8.

Clarke, S. C. T. Normal Mental, Social and Emotional Development. *Alberta School Trustee*, Vol. 26. No. 1.

Clarke S. C. T. Students Who Drop Out of School. *Alberta School Trustee*, Vol. 26, No. 4.

Coutts, H. T. Growing Pains in Education. *Alberta School Trustee*, Vol. 25, No. 11.

Coutts, H. T. Professional Education for the Superintendency. *Canadian Education*, Vol. 10, No. 4.

Dunlop, G.M. Educational Research in Alberta. *Alberta School Trustee*, Vol. 26, No. 3.

Dunlop, G. M. Educational Research in Alberta. *A.T.A. Magazine*, Vol. 36 No. 3.

Dunlop, G. M. Insights into the Learning Process. *Canadian Education*, Vol. 10, No. 4.

MacArthur, R. S. Will Your Work Conference Work? *Educational Courier*, Vol. 26, No. 1. (Also in *The Bulletin*, Vol. 35, No. 4.)

Smith, H. E. Methodologies in Education—Administration for What? *Canadian Education*, Vol. 10, No. 4.

Worth, W. H. A Leadership Course for Principals. *The A.T.A. Magazine*, Vol. 36, No. 5, January 1956.

Books

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Finn, T. G. and McDougall, W. D. *Canada and the Western World*, W. J. Gage & Company, Toronto, 1955.

Clarke S. C. T., Woodsworth, J. G. *Youth and Tomorrow*, McClelland and Stewart Limited, Toronto, 1956.

Department of English

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Kreisel, H., "Foreign Fiction" (review of *The Night of Time* by Rene Fulop-Miller) *Queen's Quarterly*, pp. 625-626, Winter 1956.

Salter, F. M. "The Tragic Figure of the Wyf of Bath," *Transactions of the Royal Society of Canada, Third Series, Section II*, vol. XLVIII, 1955.

Salter, F. M. *Mediaeval Drama in Chester* (The Alexander Lectures for 1954) University of Toronto Press, 1955.

Salter, F. M. *Thought and Expression*, by Coutts, Chalmers, Meade, Salter and Waddell (a textbook for English 30 in Alberta schools.) Longman's Green & Co., Toronto, 1955.

Scargill, M. H. "Linguistics in Canada," *Bulletin of the Humanities Association of Canada*, p. 2,, January, 1956.

Scargill, M. H. "Eighteenth Century English in Nova Scotia," *Journal of the Canadian Linguistic Association*, p. 1, March, 1956.

Watson, W. *Friday's Child*, a book of poems, Faber and Faber, London, 1955.

White, Alison G. "Mother Goose Reread," *Southern Folklore Quarterly* XIX: 156-164, 1955.

White, Alison G. with others. *Bibliography on Literature and the Arts for the Modern Language Association*, December, 1955.

Department of Entomology

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Hocking, B. Mead, a silk purse from a sows' ear. Can. Bee. J. 63(12): 4-6. 1955.

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Strickland, E. H. and Hocking, B. Insect pests of grain in Alberta. Univ. Alta. Bull. 24 (4th revision), 66pp. January, 1956.

Department of Geology

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Folinsbee, R. E. Archean Monazite in Beach Concentrates, Yellowknife Geologic Province, N.W.T., Canada. Transactions of the Royal Society of Canada, Third Series, Sec. IV, Vol. XLIX, 1955, pp. 7-24.

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Table IX—Student Registration

TOTAL REGISTRATION	1st Year 55-56		2nd Year 55-56		3rd year 55-56		4th Year 55-56		5th Year 55-56		Not Stated 55-56		Males 54-55 55-56		Females 54-55 55-56		TOTAL 54-55 55-56	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Full Session, Summer Session, Evening Divis. and Short Courses																		
1. Arts & Science																		
Edmonton																		
B.A.	50	51	57	44	61	43	3	2					137	171	134	140	271	311
B.Sc.	135	34	130	23	78	16	12	5					299	355	87	78	386	433
B.A., B.Com.	4						1						3	4			2	4
B.A., B.Sc. (Eng.)													1	1			1	1
B.A., LL.B.	33	2	15	1									53	48	5	3	58	51
Pre-dental	32	1											25	32	1	1	26	33
Dip. in Art		4	2			2									3	8	3	8
	254	92	202	70	139	61	16	7					517	611	230	230	747	841
Partials—regular													17	28	10	16	27	44
Partials—Even. Div.													14	18	17	15	31	33
Calgary																		
B.A.	9	6	1			1							7	10	8	7	15	17
B.Sc.	23	2											16	23		2	16	25
B.A., LL.B.	5	1											3	5		1	3	6
Pre-dental	7												3	7			3	7
B.A., B.Com.	1													1				1
	45	9	1			1							29	46	8	10	37	56
Partials—regular													1	6	3	3	4	9
Partials—Even. Div.													2	1	1		3	1
Lethbridge																		
Partials—Evening													1	2	1		2	2
Medicine Hat													1				1	
Partials—Evening																		
Red Deer																		
Partials—Evening																		
Vegreville																		
Partials—Evening																		
Arts & Sci. FULL TIME	299	101	203	70	139	62	16	7					546	657	238	240	784	897

Table IX—Student Registration—Continued

	1st Year 55-56		2nd Year 55-56		3rd year 55-56		4th Year 55-56		5th Year 55-56		Not Stated 55-56		Males 54-55 55-56		Females 54-55 55-56		TOTAL 54-55 55-56	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2. Agriculture	36	...	23	...	27	2	16	...	...	...	...	...	84	102	3	2	87	104
Partials	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Commerce	48	8	23	6	28	3	...	...	...	...	...	...	94	99	14	17	108	116
Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	2	3	1	1	3	3
Partials	...	...	...	...	...	...	...	...	...	...	...	...	7	11	1	1	7	12
Even. Divs.	11	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	2	3	1	1	2	4
Partials	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Even. Divs.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Commerce—Full Time	59	9	23	6	28	3	...	...	...	...	...	...	101	110	14	18	115	128
4. Dentistry	26	1	29	...	28	...	29	1	...	...	...	...	116	112	2	2	118	114
Partials	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	2
5. Education	35	84	40	98	39	41	27	34	...	...	...	...	133	142	243	257	376	399
Edmonton	1	...	...	...	1	...	1	...	...	...	1	...	3	2	...	...	3	1
B.Ed.—4 year	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Ed. in Agric.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Ed. in Ind. A	...	...	...	...	...	...	13	11	...	...	...	...	28	31	10	13	38	44
B.Ed. foll. pass B.A.,	15	6	6	...	6	3	4	...	...	...	...	...	62	67	185	172	247	239
B.Sc. etc.	67	172	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Ed. in Phys. Ed.	...	...	...	...	...	...	...	...	...	...	...	...	244	256	451	453	695	709
Jr. E.	...	...	...	...	...	...	45	49	...	...	1	...	14	17	26	13	40	30
Edmonton—Full Time	118	262	46	98	46	44	...	...	...	...	...	...	38	60	72	78	110	138
Partials—regular	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Partials—Even. Div.	...	...	...	...	...	...	...	...	...	...	...	...	21	21	41	44	62	65
Calgary	...	...	...	...	...	...	1	...	...	...	...	...	18	25	...	...	18	25
B.Ed.—4 year	12	26	8	18	...	...	...	...	...	...	...	...	2	2	...	...	2	3
B.Ed. in Ind. Arts	6	...	13	...	6	1	2	...	...	...	...	...	40	37	118	118	158	155
B.Ed. foll. B.A., B.Sc. etc.	37	118	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Junior E.	...	...	...	...	...	...	...	...	...	...	...	...	81	85	159	163	240	248
Calgary—Full Time	55	144	21	18	6	1	3	...	...	...	...	...	17	22	31	26	48	48
Partials—Regular	...	...	...	...	...	...	...	...	...	...	...	...	15	13	8	25	23	38
Partials—Even. Div.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	19	13	17	15	36	28
Partials—Even. Div.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	8	6	12	3	20	9
Partials—Even. Div.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Table IX—Student Registration—Continued

	1st Year 55-56		2nd Year 55-56		3rd year 55-56		4th Year 55-56		5th Year 55-56		Not Stated 55-56		Males 54-55 55-56		Females 54-55 55-56		TOTAL 54-55 55-56	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13. Graduate Studies																		
M.A.	...	...	...	...	...	...	...	...	...	...	...	...	22	27	9	11	31	38
M.Sc. (Arts)	...	...	...	...	...	...	...	...	...	...	...	...	27	31	...	...	27	31
M.Sc. (Agric.)	...	...	...	...	...	...	...	...	...	...	...	...	12	15	...	1	12	16
M.Sc. (Engin.)	...	...	...	...	...	...	...	...	...	...	...	...	19	15	...	...	19	15
M.Sc. (Pharm.)	...	...	...	...	...	...	...	...	...	...	...	...	3	3	...	...	3	3
M.Sc. (Medicine)	...	...	...	...	...	...	...	...	...	...	...	...	3	5	...	...	3	5
M.Ed.	...	...	...	...	...	...	...	...	...	...	...	...	27	38	6	8	33	46
Ph.D.	...	...	...	...	...	...	...	...	...	...	...	...	13	11	...	...	13	12
B.D.	...	...	...	...	...	...	...	...	...	...	...	...	14	17	...	1	14	18
Special Grad.	...	...	...	...	...	...	...	...	...	...	...	...	38	33	3	6	41	39
Partials													178	195	18	28	196	223
Even. Div. Vegreville-M.Ed.	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Even. Div. Edmonton													...	...	...	...	...	...
M.A.	...	...	...	...	...	...	...	...	...	...	...	...	11	9	2	1	13	10
M.Ed.	...	...	...	...	...	...	...	...	...	...	...	...	12	2	1	1	13	3
Special Grad.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Even. Div. Calgary													1	...	...	...	1	...
Special Grad.	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
M.Ed.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Full-Time Students	1013	710	656	359	525	245	309	79	...	34	1	...	2475	2699	1411	1455	3886	4154
14. Auditors—regular													2	3	2	4	4	7
Evening Div. Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	8	7	10	5	18	12
Evening Div. Calgary	...	...	...	...	...	...	...	...	...	...	...	...	9	1	17	...	26	1
Evening Div. Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	...	5	...
Evening Div. Vegreville	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Partials—regular													56	85	74	61	130	146
Evening Div. Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	77	92	93	96	170	188
Evening Div. Calgary	...	...	...	...	...	...	...	...	...	...	...	...	20	17	10	26	30	43
Evening Div. Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	20	15	19	15	39	30
Evening Div. Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	9	6	12	3	21	9
Evening Div. Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	23	32	32
Evening Div. Vegreville	...	...	...	...	...	...	...	...	...	...	...	...	...	20	...	4	...	24

[illegible]

Table X—Distribution of Students According to Age and Sex

Age	Male	Female	Total
16	14	10	24
17	131	184	315
18	347	389	736
19	430	308	738
20	429	229	658
21	335	151	486
22	256	82	338
23	214	36	250
24	148	32	180
25	96	17	113
26	83	15	98
27	83	15	98
28	49	15	64
29	49	7	56
30	38	6	44
31	20	13	33
32	24	13	37
33	17	9	26
34	20	12	32
35	21	5	26
36	13	13	26
37	17	8	25
38	19	5	24
39	20	10	30
40	15	12	27
41	14	7	21
42	7	8	15
43	10	8	18
44	9	6	15
45	7	6	13
46	8	9	17
47	5	11	16
48	8	12	20
49	4	8	12
50	....	10	10
51	3	5	8
52	1	7	8
53	3	5	8
54	1	1	1
55	1	1	2
56	2	1	3
57	....	1	1
58	1	1	1
59	2	....	2
60	....	....	....
61	1	1	1
62	1	1	1
63	1	1	1
Not stated	1	....	1
	<u>2973</u>	<u>1706</u>	<u>4679</u>

Table XI—Classification of Students According to Religious Denomination

Anglican	538
Baptist	170
Christian Science	10
Church of Christ	1
Church of Nazarine	15
Greek Catholic	89
Greek Orthodox	231
Hebrew	87
Later Day Saint (Morman)	108
Lutheran	275
Methodist	6
Presbyterian	161
Protestant (church not specified)	55
Roman Catholic	724
Seventh Day Adventist	10
Ukrainian Orthodox	38
United	1816
Others	206
Not specified	139
	4679

Table XII—Distribution of Students According to Sex and Marital Status

	<i>Male</i>	<i>Female</i>	<i>Total</i>
Single	2388	1550	3938
Married	583	128	711
Divorced		10	10
Widowed	2	17	19
Not stated		1	1
	2973	1706	4679

Table XIII—Distribution of Students According to Birthplace of Father

A. British Empire-Commonwealth

(a) Canada

Alberta: Edmonton	96
Calgary	52
Lethbridge	13
Medicine Hat	10
Red Deer	10
Vegreville	9
Wetaskiwin	18
Camrose	8
Cardston	15
Grande Prairie	1
On or North of Twp 38	212
South of Twp. 38	118
Not specified	81

Canada — not otherwise specified	103	
Newfoundland	4	
Nova Scotia	88	
Prince Edward Island	31	
New Brunswick	44	
Quebec	110	
Ontario	547	
Manitoba	182	
Saskatchewan	136	
British Columbia	41	
Yukon and N.W.T.	1	
		1930
(b) <i>Other Parts of the British Empire-Commonwealth</i>		
British Isles (including Eire)	766	
Dominions (S. Africa, New Zealand, Australia)	3	
All other British colonies, dependencies and members of the Commonwealth (including India, Pakistan, Ceylon, Rhodesia, Kenya, Guiana, etc.)	10	
		779
B. <i>Countries Outside British Empire-Commonwealth</i>		
United States of America	539	
Poland and Czechoslovakia	221	
Russia and Ukraine	382	
Balkan States (Yugoslavia, Roumania, Bulgaria, Albania, Greece, Turkey)	61	
Scandinavian States (Sweden, Norway, Denmark, Iceland, Finland)	159	
Germany, Austria (including Austria-Hungary)	228	
France	11	
Hungary	37	
China and Japan	62	
Holland	41	
Others	111	
		1852
Information not specified		118
TOTAL		4679

Table XIV—Distribution of Students According to Father's Occupation

<i>Occupational Classification and Occupation</i>	<i>Number</i>	<i>Totals</i>
<i>Professional</i>		
Accountants, Auditors	62	
Dentists	21	
Doctors	65	
Lawyers	57	
Ministers	52	
Pharmacists, druggists	31	
Professors, teachers	157	
Engineers and Land Surveyors	79	
Others	12	
		536

Business and Finance

Garage, service station managers and employees	69
Grain, oil, implement agents, livestock dealers	80
Hotelkeepers, restaurateurs and employees (including Motels)	91
Insurance, real estate, bond salesmen, stockbrokers	81
Retail Merchants, grocers, shopkeepers, clerks	234
Bank Employees	27
Wholesale managers, Clerks, Warehousemen	88
Salesmen, Commercial Travellers, Manufacturers' Agents	84
Advertising	31
Others	127

912

Industry

Assayers, Industrial Chemists	2
Bakers, brewers	18
Dairy and creamery owners and employees	18
Farmers, ranchers, dairy farmers, poultry farmers, and market gardeners	1183
Contractors, builders	64
Lumbermen, building supplies etc.	34
Manufacturers, factory foremen, employees etc.	46
Oil and Coal industry, Managers and employees	106
Meat packing managers, employees	27
Transportation owners, managers and employees	206
Others	31

1735

Artisans and Skilled Tradesmen

Barbers, hair dressers	18
Carpenters, masons, bricklayers, plasterers, floor finishers	97
Electricians, radio repair etc.	25
Mechanics, locksmiths, gunsmiths etc.	48
Metal workers, welders, tinsmiths, blacksmiths	33
Machinists, lathe operators	31
Painters and decorators	14
Plumbers, gas and steam-fitters	17
Tailors, pressers, cleaners and dyers, shoemakers	23
Laborers, watchmen	46
Others	42

394

Government Service

Civic or Municipal Employees	56
Provincial Government Employees	60
Dominion Government Employees	68
Armed Services	9
Members of Provincial and Dominion Parliament	1
Judges and Magistrates	6

200

Retired	349
Deceased	470
Not specified	83

4679

Table XV—Distribution of First Year Students not Precisely in Attendance
According to Course and Home Address (excluding Evening Division)

ATTENDING EDMONTON

COURSE	Total																			
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified
B.A.	41	5	2	1	4	1	1	1	1	1	11	14	1	1	1	4	1	1	1	89
B.Sc.	55	7	6	2	4	2	1	2	2	2	44	21	1	1	2	5	2	1	1	157
B.A., B.Com.	3	1	1	1	1	1	1	1	1	1	7	3	1	1	1	1	1	1	1	34
B.A., LL.B.	15	2	1	1	1	1	1	1	1	1	10	4	1	1	1	7	1	1	1	33
Pre-dent	8	1	2	1	1	1	1	1	1	1	13	1	1	1	1	1	1	1	1	2
Diploma in Art	1	1	1	1	1	1	1	1	1	1	13	1	1	1	1	1	1	1	1	33
B.Sc. in Agriculture	2	1	1	1	1	1	1	2	1	3	45	18	1	1	1	1	1	1	1	44
B.Com.	24	3	2	2	5	1	1	4	1	3	45	18	1	1	1	1	1	1	1	33
B.B.Ed. (General) 4 year course	25	3	2	2	1	1	1	1	1	3	45	18	1	1	1	1	1	1	1	33
B.B.Ed. in Industrial Arts	9	1	1	1	2	3	1	1	1	1	3	1	1	1	1	2	1	1	1	109
B.B.Ed. in Physical Education	35	1	2	1	1	1	1	2	1	1	156	23	1	1	1	4	2	1	1	17
Junior E	14	5	2	1	1	1	1	1	1	1	156	23	1	1	1	4	2	1	1	231
B.Sc. in Civil Engineering	19	4	1	1	1	1	1	1	1	1	14	8	1	1	1	1	1	1	1	40
B.Sc. in Chemical Engineering	6	7	1	1	1	1	1	1	1	1	6	8	1	1	1	1	1	1	1	48
B.Sc. in Electrical Engineering	1	1	1	1	1	1	1	1	1	1	6	8	1	1	1	5	1	1	1	29
B.Sc. in Mining Engineering	1	1	1	1	1	1	1	1	1	1	5	1	1	1	1	5	1	1	1	17
B.Sc. in Petroleum Engineering	4	2	1	1	1	1	1	1	1	1	5	1	1	1	1	5	1	1	1	1
B.Sc. in Engineering Physics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B.Sc. in Engineering Geology	46	18	7	1	1	1	1	4	2	2	34	12	1	1	1	6	2	2	2	134
Engineering (branch not specified)	11	2	1	1	1	1	1	1	1	1	8	1	1	1	1	6	1	1	1	24
B.Sc. in Household Economics	4	4	1	1	1	1	1	1	1	1	2	3	1	1	1	4	2	2	2	18
B.H.Ed.	4	4	1	1	1	1	1	1	1	1	2	3	1	1	1	4	2	2	2	18
Diploma in Physiotherapy	5	2	1	1	1	1	1	3	1	1	9	7	1	1	1	3	1	1	1	28
B.Sc. in Nursing	20	2	1	1	1	1	1	1	1	1	20	16	1	1	1	12	3	1	1	76
Diploma in Nursing	16	2	1	1	2	2	1	1	1	1	16	3	1	1	1	3	1	1	1	43
B.Sc. in Pharmacy	364	72	24	10	23	11	7	22	4	13	421	170	2	2	5	58	4	2	2	31215
TOTALS	364	72	24	10	23	11	7	22	4	13	421	170	2	2	5	58	4	2	2	31215

ATTENDING CALGARY

COURSE	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other countries	Not specified	Total
B.A.,	11	1	1																		13
B.Sc.	21	1																			24
B.A., B.Com.	1																				1
B.A., LL.B.	6																				6
Pre-dent	6																				6
B.Com.	21	1	1																		11
B.Ed. (Gen.) 4-yr. course	1	1																			37
B.Ed. in Industrial Arts	1	1																			6
Junior E	27	9	3	3					2		6	109									154
B.Sc. in Nursing																					11
TOTALS	2 110	5	3	3	1				3		9 129					5			1	1	269

Table XVI—Distribution of Daytime Students by Faculty and Home Address
ATTENDING EDMONTON

FACULTY	FACULTY																				
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others on or North of twp. 38	Others South of Twp. 38	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Columbia	U.S.A.	Other countries	Not specified	Total
Arts and Science	366	95	22	11	19	5	6	9	1	6	178	115	1	1	5	35	3	2	1	5	886
Agriculture	17	2	...	1	1	...	...	...	1	...	38	36	...	...	...	3	...	...	2	...	104
Commerce	59	18	...	...	2	1	...	2	...	1	16	16	...	...	1	3	...	...	...	...	119
Dentistry	27	6	2	...	2	2	...	...	1	...	13	10	...	...	...	49	1	...	3	...	116
Education	200	21	8	8	11	5	5	13	2	10	325	102	2	2	3	15	...	1	1	1	738
Engineering	273	107	27	6	10	4	2	7	4	7	194	112	...	1	8	48	1	1	1	3	815
Household Economics	27	6	2	...	...	2	1	...	...	1	28	10	...	...	...	1	...	...	...	...	77
Law	46	21	3	1	...	1	...	...	...	1	4	4	...	...	...	4	...	1	...	...	86
Physiotherapy	15	5	...	...	...	1	...	...	...	...	3	4	...	...	...	1	...	...	...	...	35
Medicine	111	19	6	1	2	2	...	2	1	1	30	23	...	...	1	4	12	1	...	1	216
Nursing	100	21	9	1	9	2	4	7	...	4	105	60	...	...	2	46	...	...	...	1	371
Pharmacy	44	8	4	1	2	3	2	1	...	2	40	18	...	...	...	...	...	...	...	...	125
Graduate Studies	103	21	7	1	2	1	1	...	1	...	29	10	...	...	2	18	1	1	...	8	205
B.D.	10	3	1	...	1	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	18
Partials	10	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	13
Auditors	6	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
TOTALS	1414	353	97	30	61	29	21	41	11	32	1004	522	3	2	27	240	9	7	11	17	3931

ATTENDING CALGARY

FACULTY	ATTENDING CALGARY																				
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others—on or N of Twp. 38.	Others South of Twp. 38	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I. N.B., Que., Ont.	Man., Sask., B.C. Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other countries	Not specified	Totals
Arts and Science	1	59	1	...	...	...	...	...	...	...	...	3	...	...	...	1	...	...	...	...	65
Commerce	...	8	...	...	...	...	...	...	...	...	4	147	...	...	...	9	...	...	1	...	12
Education	3	112	4	3	1	...	...	...	3	...	12	...	...	...	...	...	...	...	...	1	296
Engineering	...	1	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	1
Nursing	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
Partials	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
TOTALS	4	193	5	3	1	...	...	...	3	...	16	154	...	...	...	10	...	...	1	1	391

Table XVII—Distribution of Evening Division Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others South of Twp. 38	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	Totals
Arts and Science ..	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	33
Commerce	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
Education	107	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	138
Graduate Studies ..	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Auditors	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	12
Specials	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
TOTALS	171	3	1	1	1	1	1	1	1	1	23	4	1	1	1	5	209

ATTENDING CALGARY

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others—(South of Twp. 38)	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	Totals
Arts & Science	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Commerce .....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Education	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auditors	1	1	.....	.....	.....	.....	.....	.....	.....	.....	1	7	.....	.....	.....	38
Special Students	1	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
TOTALS	1	39	.....	.....	.....	.....	.....	.....	.....	.....	1	7	.....	.....	1	49

ATTENDING LETHBRIDGE

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Man., Sask., B.C., Yukon, and N.W.T.	Totals
Arts & Science	1	16	1	1	1	1	1	1	1	1	1	1	1	1	2
Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28
Auditors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTALS	17	1	1	1	1	1	1	1	1	1	11	1	1	1	31

ATTENDING MEDICINE HAT

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Others (South of Twp. 38)	Totals
Education	...	...	...	8	1	9
Graduate Studies	...	...	...	1	...	1
Specials	...	...	...	1	...	1
TOTALS	...	...	...	10	1	11

ATTENDING RED DEER

FACULTY	Red Deer	Camrose	Others (on or North of twp. 38)	Others (South of Twp. 38)	Totals
Arts and Science	...	...	1	1	2
Education	19	1	7	3	30
TOTALS	19	1	8	4	32

ATTENDING VEGREVILLE

FACULTY	Vegreville	Others (on or North of Twp. 38)	Totals
Arts and Science	...	1	1
Education	11	11	22
Graduate Studies	1	...	1
Auditors	1	...	1
TOTALS	13	12	25

Table XVIII—Distribution of Students According to Pattern, Honors or Branch

	1st Year		2nd Year		3rd Year		4th Year		Not Stated		Total
	54-55	55-56	54-55	55-56	54-55	55-56	54-55	55-56	54-55	55-56	
Arts and Science											
B.A.—Pattern											
English	30	23	18	20	13	17	...	...	...	...	60
Music	6	4	3	3	2	3	...	...	...	...	10
Foreign Lang. or Lit.	9	11	3	6	1	2	...	...	...	...	19
History	12	13	15	8	15	14	...	...	...	...	35
Phil. or Psych.	26	32	41	26	17	36	1	...	1	...	95
Economics	7	5	16	18	13	20	...	...	...	...	43
Art	1	1	1	...	1	...	...	...	...	...	1
Political Science	2	8	6	3	1	3	...	...	...	...	14
Geography	...	1	...	2	...	...	...	...	...	...	3
Drama	...	9	2	...	...	...	...	...	...	...	11
No pattern	...	3	...	...	...	...	...	...	...	...	3
B.Sc.—Pattern											
Chemistry	42	39	28	28	12	21	1	...	...	...	88
Mathematics	5	4	4	4	3	3	...	...	...	...	11
Physics	4	10	2	3	2	3	...	...	...	...	16
Geology	17	29	19	20	35	25	1	1	...	...	72
Botany	...	1	1	1	...	...	...	...	...	...	2
Entomology	...	2	1	2	...	1	...	...	...	...	5
Zoology	44	55	38	58	11	13	...	...	...	...	94
Special B.Sc course	15	12	12	13	15	8	...	...	1	...	33
Experimental Psych.	7	9	5	2	2	2	...	...	...	...	42
Geography	...	1	1	1	...	...	...	...	...	...	14
No pattern	...	...	4	1	...	...	...	...	...	...	2
Engineering											
Civil	50	55	73	76	54	63	36	56	...	2	252
Chemical	28	52	44	66	37	36	11	37	...	...	191
Electrical	39	36	37	48	28	24	17	24	...	...	132
Mining	5	3	11	13	10	12	5	6	...	...	34
Petroleum	11	20	11	9	22	8	17	19	...	...	61
Engineering Physics	2	1	1	...	3	...	2	...	...	...	1
Engineering Geology	2	2	...	...	1	...	...	1	...	...	3
Not specified	156	140	...	1	...	...	...	...	...	...	141
Honors											
Biochemistry	1	2	...	1	2	1	1	2	...	...	6
Botany	...	1	...	...	...	...	...	...	...	...	1
Chemistry	10	8	9	9	5	8	4	4	...	...	29
Classics	...	1	1	...	...	1	...	...	...	...	2

[illegible]

**Table XIX—Student Veterans According to Faculty or School and
Year of Course**

	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	Partials	Total
Arts and Science							
B.A.	2	....	....	....	....	10	12
B.Sc.	2	2	2	....	....	2	8
Diploma in Art ....	....	....	....	....	....	1	1
Agriculture—B.Sc. ....	....	....	3	....	....	....	3
Commerce—B.Com. ....	....	1	1	....	....	1	3
Dentistry	2	4	3	3	....	....	12
Education							
B.Ed.—4 year course	1	2	....	2	....	10	15
B.Ed. in Ind. Arts ....	....	1	....	....	....	....	1
B.Ed. foll. pass B.A. etc. ....	....	....	....	1	....	....	1
Junior E.	1	....	....	....	....	....	1
Engineering							
Civil ....	....	....	....	2	....	....	2
Electrical ....	....	1	....	1	....	....	2
Mining ....	....	....	1	....	....	....	1
Household Economics ....	....	1	....	....	....	....	1
Law	2	1	2	....	....	....	5
Medicine	2	1	1	2	....	....	6
Nursing—B.Sc.	3	....	....	....	....	....	3
Dip. in Teach. & Sup. ....	....	....	....	....	1	....	1
Pharmacy ....	....	1	1	....	....	....	2
Graduate Studies							
M.A. ....	....	....	....	....	....	....	11
M.Sc. (Arts) ....	....	....	....	....	....	....	3
M.Sc. (Agric.) ....	....	....	....	....	....	....	3
M.Ed. ....	....	....	....	....	....	....	12
Special Graduates ....	....	....	....	....	....	....	5
M.Sc. (Medicine) ....	....	....	....	....	....	....	1
Ph.D. ....	....	....	....	....	....	....	2
B.D. ....	....	....	....	....	....	....	1
Auditors ....	....	....	....	....	....	....	1
Specials ....	....	....	....	....	....	....	2
	<u>15</u>	<u>15</u>	<u>14</u>	<u>11</u>	<u>1</u>	<u>24</u>	<u>121</u>

Table XX—Degrees and Diplomas Awarded

DEGREES AWARDED				DIPLOMAS AWARDED			
	Fall 1955	Spring 1956	Total		Fall 1955	Spring 1956	Total
ARTS AND SCIENCE:							
B.A.	18	95		Diploma in Art .....	....	....	
B.Sc.	18	69		Intermediate			
				Dipoma in Art ...	....	2	
AGRICULTURE:							
B.Sc.	1	16					
COMMERCE:							
B.Com.	1	28					
DENTISTRY:							
D.D.S.	1	27					
EDUCATION:							
B.Ed.	111	65		Senior	145	86	
B.Ed. in				Junior Elementary..	116	60	
Agriculture .....	....	....					
B.Ed. in				Junior High School	77	83	
Industrial Arts ..	2	1					
ENGINEERING:							
B.Sc. in Chemical							
Engineering	2	27					
B.Sc. in Civil							
Engineering .....	....	46					
B.Sc. in Electrical							
Engineering	2	24					
B.Sc. in Engineer-							
ing Physics .....	....	....					
B.Sc. in Mining							
Engineering .....	....	7					
B.Sc. in Petroleum							
Engineering	2	20					
HOUSEHOLD							
ECONOMICS:							
B.Sc. in Household							
Economics .....	....	20					
B.H.Ec. ....	....	....					
LAW:							
LL.B.	4	30					
MEDICINE:							
M.D.	1	58					
B.Sc. ....	....	....					
NURSING:							
B.Sc. ....	....	15		Nursing	54	22	
				Teaching and			
				Supervision .....	....	9	
				Public Health			
				Nursing .....	....	7	
PHARMACY:							
B.Sc.	5	35					
PHYSICAL							
EDUCATION:							
B.Ed.	3	7					
PHYSIOTHERAPY ..	....	....					
GRADUATE							
STUDIES:							
M.A.	2	5					
M.Sc.	17	15					
M.Ed.	6	6					
Ph.D.	1	....					
B.D. COMMITTEE:							
B.D. ....	....	1					
TOTALS	197	617	814	TOTALS	392	269	661

Report of Dean A. G. McCalla of the Faculty of Agriculture

The past year has seen the first use of part of the new greenhouses and the near-completion of the remainder. The completed units and the facilities of the Agriculture Building give most members of the Faculty excellent accommodation.

A. S. Ward, Assistant Professor in the Department of Soil Science, retired and was replaced by J. A. Robertson, a graduate from the University of Manitoba. J. A. Toogood has been on sabbatical leave since September, 1955. M. N. D. Goswami joined the Department of Animal Science as a Post-doctoral Fellow supported by the National Research Council of Canada. A. G. McCalla was an official Canadian delegate to the International Congress of Biochemistry in Brussels. John Unrau attended the International Rust Conference in Mexico City. The Department of Entomology obtained the extensive Bowman collection of Alberta Lepidoptera.

Twice during the year there were opportunities to summarize the work of the Faculty and outline the philosophy underlying its program. Since an extensively revised curriculum is being introduced in the fall of 1956, it seems appropriate to review some of the factors that have been important in guiding the work of the Faculty.

Nearly 900 students have received the bachelor's degree, 215 have received the M.Sc., and five the Ph.D. Our graduates hold positions in a wide variety of fields and contribute to Canadian agriculture at all stages of production, marketing, and processing of farm products, in supplying most farm needs, and in the field of agricultural research.

Concern is often expressed because the majority of our students do not return to the farm. The actual percentage who do is about 18%. This should not be surprising, however, and it corresponds closely with the experience of other agricultural faculties across Canada. The concern expressed is so common, particularly among rural people, that it merits some attention.

For many years the size of most farms in Alberta has been increasing and the total number of farms decreasing. The total number of active workers on farms has decreased very strikingly in the last 40 years. At the same time agricultural production has greatly increased. This increase has been made possible almost entirely by the application of scientific principles to the practice of farming. Agriculture today is an applied science on the farm, just as it is in the University program. This is realized when one considers such things as the rapid progress of mechanization; the greatly increased understanding of fertility and the methods of improving the productivity of our soils; the development of the application of chemistry to agriculture as exemplified by the use of herbicides, insecticides, vitamins, antibiotics, etc.; and the enormous advances in nutrition of farm livestock, that make it possible to reduce the feeding period of a bacon hog by 25%. In order that agriculture shall use such developments effectively and economically, it is necessary that an increasing number of people should be familiar with these developments. If the two factors of this need and of the decreasing demand for farm labour are put together, what is more natural than that some of the farm young people shall come to university and then serve agriculture, not by farming, but in one of the many fields related to agriculture and on which farming depends more and more every year? Nevertheless, present registration in agriculture across

Canada is too low to provide at all adequately for graduates to fill this real need.

The Faculty is responsible for carrying on teaching, research, and some extension work in the field of agriculture. It is quite possible that the value of our Faculty to Canada will be greater through the men we teach than through the specific results of our own research. Nevertheless, many of our best men get the most important part of their training through research. The quality of teaching at university level is improved when the instructor is doing research and keeping up with research developments in his fields. More important still, an instructor who is active in research will almost certainly take part in the graduate program of the Faculty and such graduate programs do more than anything else to determine a university's quality and reputation.

The Faculty of Agriculture has a heavy research program — probably heavier than that of any other faculty in the university. This has been recognized by the Administration and is reflected in lighter teaching loads. Graduate student-training and research, however, more than equalize any concessions of this kind.

Since the degree given by the Faculty of Agriculture is the Bachelor of Science, it is assumed that the program will be built on a firm background of basic science. One of the continuing problems has been to give adequate science and at the same time adequate application of fundamentals to agriculture. There has been, and still is, considerable difference of opinion as to how the balance between fundamentals and application should be struck.

Agriculture, whether we are discussing farming or research, deals with living things — plants and animals. The study of living things is "biology" so our students must get as thorough a grounding in biological principles as is possible. While many basic principles are the same for all branches of biology, our students must take several courses in this general field. Plant and animal nutrition are concerned with chemistry, both organic and inorganic, so our students must take courses in these fields. Chemistry beyond the most elementary stage assumes an acquaintance with physics and mathematics, and students will not go far without such training.

Our students then must get sound training in both the biological and physical sciences. In four years we must try to give them this and at the same time relate these to the production of plants and animals and the management of soil. We also require a minimum of one course, and not infrequently three or four courses, in agricultural economics. Most of us agree that our students would benefit from courses in philosophy and psychology, more English, and so on, and that their lives are likely to be richer if they can get these. It is obvious that the students can't get enough of all these things. The danger that they won't get enough of anything must be avoided.

The first year in the revised curriculum will be introduced in the fall of 1956. Briefly the revision results in eliminating introductory agriculture courses from the first year and requiring the students to take the fundamentals first. The initial courses in each field of agriculture will come in either the second or third year and will be much more advanced than were the old courses. Specialization will be largely restricted to the fourth year.

The graduate program has expanded during the past few years, especially with the addition of training to the Ph.D. level. The larger departments

have all the requisites for good graduate training and it is anticipated that the program will continue to expand. The Faculty has a number of staff members who have international reputations and whose abilities should certainly be used as widely as possible.

Academic

Graduate registration totalled 30, 15 for the M.Sc., 9 for the Ph.D. and 5 special graduates, all of whom plan to complete degree programs. Total registration is still well below that needed to supply the demand for graduates. Another successful Diploma Course in Dairying was completed. Faculty members welcome the addition of three new undergraduate scholarships provided by the Alberta Dairymen's Association, the Alberta Division of the Canadian Feed Manufacturers' Association, and the Alberta Branch of the Canadian Seed Growers' Association.

Research

No attempt is made here to summarize the individual research projects in progress in the Faculty. The general program in most departments continues to grow. Generous support has been received from many sources, especially the National Research Council of Canada and the Canada Department of Agriculture. Many commercial and industrial firms have made grants and supplied materials without which the present program could not be maintained.

Extension

Faculty members took part in the usual extension activities including short courses, field days, seed fairs, radio interviews, personal interviews, and the answering of correspondence. There has been a sharp decline in time devoted to radio addresses since the Farm and Home Forum was discontinued. Feeders' Day and the Breton Field Day were both well attended.

In October, 1955, an Agricultural Soil and Feed Testing Laboratory was established with the support of the Provincial Department of Agriculture. Interest in the Laboratory has been keen, and there has been a steady flow of greenhouse soil samples and of feed samples. Farm soil samples have begun to arrive since the snow disappeared and there is every reason to expect heavy demands on the Laboratory. It is anticipated that results obtained in the Laboratory over a number of years will be useful in giving direction to some of our research.

In conclusion, it is appropriate to acknowledge the co-operation and assistance we have received from other departments in the University and from government and private interests outside the University.

Report of Dean Walter H. Johns, of the Faculty of Arts and Science

I have the honour to present a report dealing with the Faculty of Arts and Science for the session 1955-56.

1. *Registration 1955-56* (See page 34.)
2. *Recommendation for Degrees and Diplomas* (See page 53.)
3. *Progress during the Session*

(a) *Administrative duties*—During the periods when Dean Johns was carrying out his duties as Vice-President, the work of the Dean's Office was carried on by Professor D. E. Smith with the able assistance of Dr. K. B. Newbound, Assistant to the Dean.

(b) *Patterns and Honors Programs*—A new Honors program was established in Zoology, and revisions were carried out in the Patterns or Honors Programs in Economics, English, Fine Arts, Mathematics, Philosophy, Physics, and Political Science.

(c) *Numbering of courses*—A Committee under the chairmanship of Dr. E. H. Moss brought in suggestions regarding the renumbering of certain junior courses to reduce the confusion between junior and senior courses. The Committee further recommended that the normal number of junior courses in a Pattern program should be six and that the number should only rarely exceed seven. These recommendations were approved.

(d) *New Courses and Course Changes*—The following new courses were approved:—

- Chemistry 59—Instrumental Analysis
- Chemistry 113—The Phase Rule and Heterogeneous Equilibria
- Drama 40—Voice and Speech
- Economics 62—National Income Analysis
- Economics 63—Comparative Economic Systems
- French 53 (Summer Session only)—French Language and Civilization
- History 8—Canada and the United States, 1492 - 1939
- History 72—Sea Power and Diplomacy, 1470 - 1945
- Mathematics 3—Introduction to Biometrics
- Mathematics 5—Elementary Mathematics
- Mathematics 106—Theory of Estimation and Statistical Hypotheses
- Mathematics 111—Theory of Games and Statistical Decisions
- Mathematics 112—Analysis
- Mathematics 113—Mathematical Logic
- Political Science 59—Public Administration

Other courses, particularly Economics, Political Science, Mathematics, and Philosophy, were substantially altered. Economics 2 (Outline of Economics) and Physics 48 (Elementary Meteorology) were dropped from the curriculum.

(e) *Leave of Absence and Sabbatical Leave*—Dr. H. B. Mayo was given leave to carry on research independently and later resigned from the staff. Mr. William MacKenzie was granted a year's leave to work with the Royal Commission on Canada's Economic Prospects. Mr. J. B. Taylor was given leave of absence to study art at the Slade School of Art, London, England. Dr. S. G. Davis spent a year's sabbatical leave studying at King's College, University of London. Miss L. Wilson spent a year's leave doing graduate study in Psychology at the University of Minnesota. Dr. Wilfred Watson was given leave to study in France on a Fellowship awarded through the Royal Society of Canada.

(f) *Retirements, Resignations, and New Appointments*—Dr. P. S. Warren retired as Head of the Department of Geology in August, 1955, and was succeeded by Dr. R. E. Folinsbee. Mr. R. H. G. Orchard resigned as Assistant Professor of Drama to establish a Studio in Vancouver, and Dr. P. G. Rooney left the Department of Mathematics to join the staff of the University of Toronto. Mr. Eugen J. Weber left the University after one year's service to join the State University of Iowa, and Mr. G. F. Sleight resigned to join McGill University.

New appointments included Dr. D. M. Schurman in History, Dr. I. Guttman, Dr. A. Lightstone, and Mr. J. R. Pounder in Mathematics, Mr. Frank F.

Bueckert in Drama, Mr. E. N. Yates in Art, Mr. G. K. Greene in Music Extension, Mr. Harry Wohlfarth in Art Extension, Mr. J. Bilsland, Dr. Alison White, and Miss Joan Laird in English. Dr. A. B. Bhatia was appointed Assistant Professor of Physics, and Mr. A. J. B. Hough joined the staff as Lecturer in Psychology on a part-time basis.

4. Departmental Reports

Botany

The work of the Department has been greatly enhanced by improved greenhouse facilities during the year. Under the supervision of Dr. J. H. Whyte, introduced plants are being grown by Mr. Pat Seymour for studies on hardiness as well as for various other purposes. Collaborating with the Alberta Fish and Game Branch, Dr. R. G. H. Cormack has been investigating the effects of logging and burning on trout streams and game animals. Miss L. Kennedy is continuing her researches on the taxonomy of some of the higher fungi. Mr. John Hopkins of Edinburgh, sessional assistant this year, has made a splendid contribution to the teaching and research of the Department. Dr. E. H. Moss is working on a manuscript for a manual on the flora of Alberta with a view to completing it next year.

Chemistry

The Department of Chemistry found its registration of students reach the figure of 1596 in the present session with the greatest number found in the Faculties of Engineering (620) and Arts and Science (546), with other students registered in the Faculties and Schools of Pharmacy, Education, Agriculture, Household Economics, Graduate Studies, Nursing, and Dentistry. With such a heavy teaching burden, the task of obtaining sufficient demonstrators continues to prove difficult. Nine students were registered for the Master's degree in Chemistry, and there were thirty-one students in the Honors program.

Members of the Department continued to be active in administration and research. Dr. O. J. Walker has been appointed Vice-President of the Chemical Institute of Canada. Dr. R. K. Brown spent the summer of 1955 with Atomic Energy of Canada at Chalk River, while Dr. W. F. Allen carried on research at the Trail Research Laboratory of the Consolidated Mining and Smelting Company.

In research throughout the regular session, Dr. Allen studied methods for determining small amounts of cobalt. Dr. R. K. Brown did research in the reactivity of cellulose, and the preparation of indole derivative of interest as carcinogenic agents and as antitumor agents. Dr. W. E. Harris' research lay in the field of polarography in Analytical Chemistry. Dr. J. L. Morrison studied the adsorption isotherm and the heats of wetting of silk keratin by water and the adsorption of propyl alcohols from aqueous solutions by mercerized and unmercerized cottons, the specific adsorption of alkyl orange dyes by silica gels and the fundamentals of thermodynamics. Dr. Sandin continued his studies of chemotherapeutic agents for cancer and Dr. Walker his researches in fluoride analysis. Dr. W. J. Wallace studied the preparation of anhydrous metal halides, the interaction of nickel halides with donor solvents and the hydrolysis of chromic perchlorate. Dr. S. G. Davis studied physical chemistry on his leave at King's College, London.

Classics

Dr. W. G. Hardy returned from sabbatical leave in September, 1955. Dr. W. H. Johns served as Vice-President and Dean of the Faculty of Arts and Miss Margery MacKenzie continued to serve as Radio Secretary. These members of the department gave a number of radio talks and other addresses throughout the year. Dr. Johns again served as a member of the panel of judges for the Governor-General's award in academic non-fiction.

English

Professor F. M. Salter was awarded the honorary degree of Doctor of Letters by the University of Toronto in the fall of 1955 and gave the Convocation Address on the occasion. In the spring of 1956 he was made a fellow of the Royal Society of Letters. Dr. Wilfred Watson won the Governor-General's Award in Poetry for his book, *Friday's Child*. Mr. Elder received his Ph.D. from the University of Toronto.

Professor Salter taught in the Summer School at the University of Toronto while Professor Ryan taught at the Royal Military College and Professor Scargill at the University of British Columbia. Throughout the year members of the department gave public addresses on a number of occasions and Professors Kreisel and Godfrey gave talks on the CBC. Professor Salter served as a judge in the Saskatchewan Fiftieth Anniversary contest for short stories, plays and poems, the J. M. Dent Writers Contest and the short story contest of the National Federation of Canadian University students. Professor Ryan, Dr. White and Mr. Bilsland were judges in the annual poetry contest of the Canadian Authors' Association, Edmonton Branch, and Professor Kreisel was a judge in the I.O.D.E. novel writing contest for 1955.

Fine Arts

All three divisions of the Department of Fine Arts had another year of creative activity as well as carrying on their teaching program. The Department, jointly with the Women's Musical Club, sponsored four concerts and also arranged for two lectures by visiting Art Critics as well as delivering several talks themselves.

The Art Division found that the provision of a B.A. pattern and a Diploma program has increased the registration and improved the calibre of the work of the students in Edmonton while Mr. Wohlfarth served an increasing number of classes in many centres throughout the province. During the year the Division displayed two travelling exhibitions, six one-man shows, one National Gallery exhibition of facsimiles, and two displays of student work. Twenty-four talks and panel discussions on art were broadcast over CKUA.

The Drama Division saw an increase in student enrolment from 62 to 94 in the past session and had audiences totalling over 5,000 for its four major productions in the Studio Theatre. Student productions were a feature of the year's activities both in the Summer Session and the regular term, with four one-act plays produced in the summer and seven in the winter in addition to the Inter-Faculty Play competition and the French play, Dr. Knock, produced by the Department of Modern Languages. Weekly talks were given over CKUA and the staff gave a number of lectures and short talks throughout the province.

The Music Division saw a small increase in registration over last year and a distinct improvement in the quality of the students' work. All students

in the division took part in a public performance in Convocation Hall at Christmas time either in choral singing or the Symphony Orchestra. The Mixed Chorus, with one hundred and fifty members, had a busy session with two CBC broadcasts and a number of concerts in Edmonton and other centers including a Spring Tour which took them to ten towns in Alberta and British Columbia. The University Symphony presented three concerts in Edmonton and one in Red Deer, while the University Singers presented a concert in April as well as participating in the Christmas Concert. Extension work in music has been carried on throughout the year.

Geology

The Department of Geology continues to offer instruction to a large number of students in the pattern and Honors program as well as in the School of Graduate Studies and in other Faculties. Four candidates for the M.Sc. degree submitted theses this spring. Professor R. E. Folinsbee is carrying on research in radioactive dating and presents a paper on the subject to the Royal Society in June. Dr. C. R. Stelck is supervising work in foraminiferal studies of the western Canada sedimentary basin. Dr. S. J. Nelson is working in Carboniferous palaeontology and Dr. P. S. Warren, with Dr. Stelck, is studying Cretaceous stratigraphy and continuing his work on the index of fossils of western Canada. Throughout the year members of the Department worked on plans for their new quarters in the Biological wing of the Agriculture Building.

History

The Department of History has carried on an active program of lectures with five courses offered in the 1955 Summer Session, two courses in the Evening Credit Program in Edmonton, one in Red Deer, and one in Vegreville besides the regular program of one junior and eight senior courses. Members of the staff have given a number of addresses to various organizations including the United Nations Summer School in Banff. Dr. L. G. Thomas has continued his research in Missionary Records in the Canadian West with three articles published on this subject in the past year.

Mathematics

The Department's staff has risen to thirteen full-time and three part-time instructors to meet the rapidly growing need for instruction in this field.

Dr. H. Helfenstein spent the summer at the Summer Research Institute at Queen's University. Dr. Horton carried on research at the National Research Council, Ottawa, with the theoretical physics group on problems of solid state structure in metals. Professor Keeping addressed the Pacific North-west Section of the American Mathematical Society in June, 1955 and taught at the University of British Columbia Summer Session. Four members of the Department offered courses in the University of Alberta Summer Session. The weekly Mathematics Colloquium, under the direction of Dr. Moser, has been well attended by senior Honors students, graduate students, and staff.

Modern Languages

Dr. V. E. Graham returned to his duties at the Calgary Branch after a year as visiting professor at the University of Michigan, and Dr. Margaret Sullivan transferred to the Edmonton staff to assist in meeting the demands made on the French Division by increasing numbers of students. Mr. E. Reinhold was awarded the degree of Ph.D. from the University of Michigan

in the field of German Language and Literature. Mr. M. Rabotin, French Teaching Fellow, in collaboration with the Studio Theatre and the revived *Cercle Francais*, produced the three-act play *KNOCK*, which is read in French 2, playing four performances in Edmonton and one in Calgary. Two graduates of the class of 1955 went to France with awards from the French Government, and three were registered for the M.A. degree, one in German and two in French. Members of the Department were active in a variety of professional organizations as well as in research.

Philosophy and Psychology

Professor Mardiros returned to the Department after his sabbatical year devoted to research in aesthetics, conducted in Italy. Miss L. Wilson carried on her graduate study in Industrial Psychology at the University of Minnesota on a year's leave of absence. During the year Professor Mardiros attended a conference on the Philosophy of Religion at the University of Oregon, and Professor Penelhum the meeting of the Pacific Division of the American Philosophical Association at the University of California, Berkeley. Dr. L. C. Walker attended the meeting of the American Psychological Association in San Francisco and the meeting of the Midwestern Psychological Association at St. Louis. Professor D. E. Smith attended the Canadian Conference on Social Work in Edmonton. Papers were presented at all these meetings.

Dr. D. Spearman has been appointed to the Scientific Planning Committee of the Alberta Division, Canadian Mental Health Association, and Professor Smith has served as Chairman of the Personnel Committee, John Howard Society of Edmonton. A testing service was begun this year to meet the growing number of requests for testing and counselling received by the Department from individuals and from organizations such as the National Employment Service.

Physics

Registrations in this Department are beginning to show an increase, after having been at a low ebb in recent years. There were five candidates for the M.Sc. and one for the Ph.D. this year, but only one for the Bachelor's degree.

Research in Theoretical Physics has been carried out by Dr. A. B. Bhatia, Dr. H. Schiff, and Dr. G. K. Horton of the University staff and Dr. D. D. Betts, a post-doctorate fellow in the fields of Theoretical Nuclear Physics and Physics of the Solid State. Dr. D. B. Scott has been studying the use of beta-rays from radioactive sources as a therapeutic agent for certain types of lesions and the use of radioactive tracers to study the absorption of drugs in the system. Dr. G. D. Garland worked on geophysical methods of study in the underlying structure of the Rocky Mountains area and, as a member of the National Research Council's Committee on Geodesy and Geophysics helped organize the Arctic program for the International Geophysical Year. Dr. E. H. Gowan continued his work on atmospheric ozone and solar ultra-violet radiation, and Dr. K. B. Newbound carried on study of the precise measurement of wave-lengths in the spectra of mercury and argon. Dr. J. H. Harrold spent the summer of 1955 in the laboratories of the Department of Mines, Ottawa, studying the structure of Metals. Mr. M. C. Martin of the Calgary Branch completed his study of the elastic properties of metallic single crystals under the direction of Professor H. Grayson-Smith as a candidate for the

degree of Ph.D. In March the Department acted as host to the Prairie Regional Meeting of the Canadian Association of Physicists.

Political Economy

Dr. H. B. Mayo was replaced during a year's leave of absence by Mr. W. E. Grasham, and Mr. William MacKenzie was replaced by Dr. J. A. Boan for the period of his absence on the work of the Royal Commission on Canada's Economic Prospects. Registration in the Department's courses rose about 10% over the previous year with a gratifying increase in the number of Honors students in both Economics and Political Science. Dr. W. C. Wonders instructed in Geography in the Royal Military College, Kingston, and Dr. E. J. Hanson in the University of Saskatchewan in the Summer of 1955. In the field of research Mr. Boote, Mr. Davy, and Mr. Gainer continued work on their dissertations for the degree of Ph.D. Dr. Hanson is beginning a study of the Alberta Economy and is currently completing his book on local government in Alberta. Mr. G. MacDowell has nearly completed his study of labour legislation in Alberta and has completed an article on consumption. Members of the Department served on a number of University Committees and outside organizations as well as carrying a heavy load of lecturing and radio work. Dr. Wonders gave a paper at the meeting of the American Geographical Society in Montreal. Mr. Gainer appeared before the Board of Transport Commissioners on a pipeline application, and Dr. Hanson participated in utility rate, tax, and local government cases and projects and served as Alberta vice-president of the Public Administration Institute of Canada. Mr. Maurice Boote was appointed in Economics and Mr. Arleigh Laycock in Geography.

Zoology

Nearly 600 students were enrolled in Zoology courses this year, including two graduate students of whom one was completing work for the Master's degree. During 1955 Dr. R. B. Miller served as chairman of the Committee on Hydrobiology and Fish Culture of the American Fisheries Society and 1956 he was appointed to the Council of the National Research Council. Dr. Rowan and Dr. Miller lectured at the Provincial Ranger School at Kananaskis in November, 1955. Dr. J. R. Nursall gave a series of Extension lectures on "The Evolution of Man and Development of Race", and Dr. Rowan conducted a class in Art Anatomy for the Evening Extension Program in Fine Arts. Dr. Rowan also put on a one-man show of drawings, paintings, and sculpture in the Arts Building.

Dr. Nursall continued his research in the swimming mechanisms of fish and tadpoles. Dr. J. E. Moore carried on his summer ecological survey and collecting throughout the province and added many specimens of terrestrial vertebrates to the Department's collection. During the winter he worked on the food habits of Alberta amphibians and the taxonomy of Alberta pocket gophers. Dr. Miller's research has again been in fisheries at the Biological Stations at Gorge Creek and Beaver Creek. Dr. Rowan has continued his study of the ten-year cycle. All members of the Department have assisted in the planning for Edmonton's new zoo with Dr. Rowan taking the most active part in this project.

Report of Mr. B. A. Lindberg, Director of the School of Commerce

The enrolment of the School of Commerce for the 1955-56 session in comparison with the 1954-55 session is:—(see page)

Faculty Additions

The addition of an Assistant Professor of Business Administration and a Case Writer (Lecturer Rank) has been authorized. The Appointment Committee is currently engaged in the final selection of applicants obtained from: (a) circularization of 13 Universities in Canada; (b) circularization of 52 Universities in the U.S.A. and 14 Universities in Western Europe; (c) advertisements in Calgary and Edmonton newspapers. The Committee has had several meetings on the difficult selection problems arising from expansion of the School.

Case Collection

During the year 72 teaching cases were developed and written. Most of these have been used in classes. Some 50 more cases are currently in the process of being completed. The support of business and industry in making case materials available to the University is one of the most encouraging aspects of the year's operations. It is also a pleasure to report that a Case Writing Group, composed of business executives, is currently meeting on a weekly basis at the University. These executives are studying how to write business cases. This group should prove a fruitful source of cases and also, perhaps, a source of future teachers.

New Courses

During the year four new courses were offered here in Edmonton for evening students, in co-operation with the Department of Extension. These courses were:—

- Management (32)
- Supervisory Training (53)
- Personnel Administration (31)
- Financial and Accounting Controls (20)

In February, three new courses were offered in Calgary on a similar basis:—

- Management Development (31)
- Supervisory Training (38)
- Personnel Administration (17)

It is expected that Financial and Accounting Controls will be offered in Calgary next October. In this way it should be possible each year to offer similar course coverage in Calgary as in Edmonton. It is hoped that similar arrangements may be extended to other population centres in the province — provided always that local support will warrant such an extension.

School of Commerce Council Activities

The Council met six times during the year. A Committee on Future Trends and Needs for the School of Commerce (Professor J. D. Campbell, Chairman) presented a report intended to serve as a basis for faculty discussion and action during the coming year.

The Council established a RESOURCE GROUP intended to recognize individuals who have contributed a group of cases or otherwise have aided in making educational materials available for a specific course or courses.

The Council likewise approved the establishment of an ADVISORY COMMITTEE — a group of highly qualified and active leaders in administration and direction of enterprises have been invited periodically to visit the School. The purposes of such visits are:—

1. To appraise realistically the objectives of the School.
2. To scrutinize the plans to attain these objectives.
3. To meet with members of the Faculty and the Commerce Club.
4. To offer suggestions for new areas of service for the School.

Public Relations Activities.

To date the members of the Faculty of the School have delivered more than 100 speeches — mainly in and close to Edmonton, but also in Calgary, Camrose, Edson, Peace River and Rocky Mountain House.

In addition, four radio programmes were presented — one was a 28 minute presentation.

Two book reviews were printed in professional journals and an article for the Journal of Chartered Accountancy has been prepared by Professor D. Goodale.

Banff School of Advanced Management

Faculty Members of the School participated in the Banff School of Advanced Management as instructor and observer. Several of the recently written cases were used in this programme. It is hoped that through the experiences faculty and students get from case instruction in this programme that:

- a. the case method of instruction will be made available more easily to the co-operating universities in the Banff School of Advanced Management.
- b. new cases will be added by the other co-operating institutions.

The School of Commerce also co-operated with instruction in two other programmes offered through the Department of Extension at the Banff School of Fine Arts.

Department of Accounting

The work carried on by the Accounting Department for the year 1955-56 consisted of the normal teaching operations, research and extension activities. To date only the introductory course in Accounting has been offered in Calgary.

Research. The research activities of the department have been confined to a continuation of the financial statement analysis of some three hundred corporations for the year 1955. It is expected that the results of this study will be available for publication in May, 1956. The preparation of the results of this study for publication is being carried out by Professor Campbell in co-operation with Professor Gainer of the Political Economy Department.

Preliminary work has been carried out in the field of Marginal Income analysis as applied to small businesses which will be continued in the current year.

Extension Work. Professor Campbell completed his second year as Consultant to the Department of Health in the implementation of standardized accounting in the hospitals throughout Alberta. This work has been carried out in close co-operation with the Alberta Hospital Association and the Canadian Hospital Association.

An evening extension case course was started for top management in February, 1956, in the area of Financial and Accounting Controls using the

case approach. This has been favourably received. As in previous years, evening lecture courses have been provided for the Registered Industrial Accountants in Calgary and Edmonton. The demand for these courses has continued to increase with the result that the course in Accounting 1 had to be divided in both Calgary and Edmonton. The evening credit course in Accounting I in Calgary and Edmonton was combined with the course given in this subject for the Registered Industrial Accountants.

The members of the department were engaged actively in the administration of the professional act governing accountancy both with the Board of Examiners as well as the Board of Review. During the year twenty applications were received and decided upon by the Board of Review. Close liaison is maintained with the Institute of Chartered Accountants of Alberta. A substantial number of our graduating class are taking the articling route into the profession. The demand in this area substantially exceeds the supply.

In the October, 1955, final professional examinations of the Institute of Chartered Accountants of Alberta former Bachelor of Commerce graduates from the University of Alberta made a very creditable performance.

Department of Business Administration

During the year students of Business Administration 40, 55 and 56 participated in a project sponsored by the Department of Labour in Ottawa. The project, directed by the Women's Bureau, comprised a survey in six Canadian cities on: "Why Married Women Work for Pay". It was a comprehensive questionnaire involving "closed" — "scalar" — and "open end" questions relating to a variety of facts, ideas and opinions. The participating students did an excellent job under very adverse climatic conditions: The survey took place in January, 1956. It was on a "quota-sample" basis and hence covered every neighbourhood of Edmonton. The Edmonton survey was the first one to be completed and submitted. It was the only one which covered 100% of the quota sample and to quote the letter from Ottawa: "... Miss Royce has told me that the Edmonton material has been received and that it was wonderfully well done ..." — "... the records of the survey and the details of enumeration were expertly kept ..."

All in all, there seems to be a high degree of probability for the thought that the students established an enviable record of performance on this project. It is likewise our belief that the project also was a meaningful, educational experience for all the participants.

Class Opinionnaires

To ascertain more effectively the results of instruction, class opinionnaires were used to obtain information and reactions from the students. The results of these opinionnaires were presented at the last class sessions and will be used in planning for future classes. (Similar opinionnaires were also used in the classes offered in co-operation with the Department of Extension.)

New Courses

Plant Administration, a course dealing with the administration of industrial and manufacturing operations, was authorized. It will require the assembly of more than one hundred new cases in this field. Here again the support of business and industry has been most re-assuring. The director had spent more than six hours with the General Manager of a local plant, obtaining much

valuable case material. As he was leaving the General Manager said: "Is there anything else we can do for the University?" The director replied: "Thank you, Sir, you have already been of great help. I really could not ask for more." The General Manager then said: "Perhaps we could arrange to get a skeleton crew to come to work one Saturday morning if a class could come out here. That way we could demonstrate every step of the production process from the yard of raw material to the finished product on the shipping platform. On such a basis we could take each operation by itself — shut down the machinery whenever we would want to talk about any operation . . . " It is our hope to accept this most generous offer.

Report of Professor Mabel Patrick, Director of the School of Household Economics

I beg to submit the following report of the School of Household Economics for the year 1955-56:—

Changes in Courses

The course leading to the degree of Bachelor of Household Economics will not be offered after the 1956-57 session.

Two courses, Household Economics 45 and 51, are now offered for Arts and Science students.

Registration

Registration in the School this year was slightly down from the 1954-55 session. There were 78 students as compared with 81. There was a decrease of 28% in the number of students registered in courses offered by the Department of Household Economics for Education students, but in the Summer Session there was an increase of 30%. There was an increase of 28% in the number of nurses registered in this department.

Resignations and Appointments

Miss Hazel McIntyre returned after a year's leave of absence. Miss Charlotte Wade and Miss Elizabeth Empey resigned. Miss Baunita Young succeeded Miss Empey and was replaced by Miss Joyce Lister. Mrs. Alice Brewer, Mrs. Helen Bentley and Mrs. Florence Wilson were appointed sessional lecturers.

Miss Grace Duggan participated in the Second Nutrition Conference in Ottawa in June and in February attended a short course in Civil Defense in Arnprior. Members of the staff have taken part in Career Days in Edmonton High Schools, attended professional meetings, taken part in programs arranged by the Extension Department and carried on the usual extra-curricular activities for the department.

Graduate and Student Appointments.

Miss Elizabeth Ann Donald received a Master's degree from Washington State College at their 1955 Spring Convocation and has been appointed to the Research Staff of the Department of Home Economics at that Institution.

Sixteen members of the senior class have accepted hospital interne appointments, one a position as district home economist and another a position in a Home Service Department. Three will be occupied in homemaking.

Report of Dean W. Scott Hamilton of the Faculty of Dentistry

The total enrolment in the faculty for the 1955-56 session was 115, which included five special students who had recently emigrated from Europe. The applications from European students appear to be on the decline, since only three presented themselves this year. While these students have presented difficulties in an attempt to accommodate them, we feel that it was worth while in order that they might become properly settled in this country and increase professional personnel, which is so badly needed.

During the present session Dr. H. R. Maclean spent six months in special study at the University of California.

The field of Public Dental Health has received much prominence in this province and many of our faculty have participated in the various programmes, including lectures to such groups as home and school organizations, broadcasts and television presentations.

Five from the faculty attended the meeting, in St. Louis, of the American Association of Dental Schools. Members of the faculty have appeared on the programmes of societies and conventions. The Dean attended the meeting of the Council on Dental Education in Toronto.

Requests continue to pour in for dentists to locate in various parts of the country where the public have no such service available.

Report of Dean H. T. Coutts of the Faculty of Education

I have the honour to present this report dealing with the Faculty of Education for 1955-56.

Registration

Student registration rose slightly in both Edmonton and Calgary with a continuation of the trend toward greater increases in the degree programs.

Degrees and Diplomas (see pages 36 and 53.)

Developments during the year

(a) Visiting Lecturers

Dame Olive Wheeler of Cardiff, Wales, Professor M. P. Toombs of the College of Education, University of Saskatchewan, and Professor H. L. Stein of the Faculty of Education, University of Manitoba, were visiting lecturers during the year.

(b) Curriculum

The B.Ed. program was under review by staff during the year. The only changes made were the discontinuance of the B.Ed. in Agriculture program and the addition of two new courses: Education 500 (Graduate Seminar) and Education 514 (Educational Sociology).

(c) Leave of Absence

Associate Professors Buxton, Lampard and Sparby were on leave of absence during 1955-56, Mr. Buxton to continue his graduate studies at Stanford University, Miss Lampard to continue her graduate studies at the University of Chicago, and Mr. Sparby to assist in administering the Canadian Education Association-Kellogg Program in Educational Leadership.

(d) *Staff Changes*

On September 1, 1955, Professor H. T. Coutts succeeded Dr. H. E. Smith as Dean of the Faculty of Education. Dr. H. S. Baker was appointed Professor and Chairman of the Division of Secondary Education. Assistant Professor Barnett returned after two years' study in the University of Southern California. Dr. R. S. MacArthur and Mr. W. H. Worth were appointed to the staff in Edmonton, Dr. L. Ford, Miss E. King, and Mr. S. A. Linstedt to the staff in Calgary. Mr. Hampson was transferred to Edmonton. Mr. J. A. Forbes returned from a year's leave of absence during which he attended the London Institute of Education. Mr. Frank Baer continued as a sessional instructor in Calgary. Mr. Norman Yates was transferred to the Department of Fine Arts. Because of her increasing administrative duties, Associate Professor M. S. Simpson was relieved of her teaching responsibilities in the Faculty. Mrs. C. Higgin served in the Calgary Branch.

Stanford University conferred the Ph.D. degree on Associate Professor B. E. Walker in June, 1955.

(e) *Publications*

While publications are listed elsewhere, special mention is made of *Canada in the Western World* (Gage and Co., Toronto, 1955), by Dr. T. G. Finn and Dr. W. D. McDougall, and of *Youth and Tomorrow* (McLelland and Stewart, Toronto, 1956), by Dr. S. C. T. Clarke and Dr. J. G. Woodsworth.

(f) *Representation at Professional Conferences*

The Faculty was represented at the Western Canada Regional Conference on Teacher Education (Winnipeg), the Conference of Deans and Professors of Educational Administration (Toronto), the National Conference of Canadian Universities (Toronto), the Canadian Education Association Conference (Quebec), and the Laval Short Course in Educational Leadership (Quebec).

(g) *Graduate Program*

The Faculty serves a large number of graduate students. During the year negotiations have proceeded with the W. K. Kellogg Foundation for a grant to assist in promoting an extended graduate program in educational administration.

(h) *Research*

Research activities in the Faculty have been extended throughout the year. Faculty sponsored research activities led to the publication of several studies. *The Alberta Journal of Educational Research* completed its first successful year of publication. A submission was made to the Carnegie Corporation for aid in developing research activities still further.

The divisional reports below show more completely the extent and variety of activities in which the staff of the Faculty of Education are involved. A warm word of thanks is due to all those who have made this a successful year for the Faculty: the teaching staff, the demonstration staff, the clerical staff, and the custodial staff.

Division of Educational Psychology (Dr. G. M. Dunlop Chairman)

The staff of the division was composed of Drs. J. W. Gilles, S. C. T. Clarke, R. S. MacArthur and J. G. Woodsworth, Mr. R. J. C. Harper and Dr. G. M. Dunlop, Chairman. Dr. MacArthur was the only new member of the Division,

replacing Mr. W. Pilkington, who transferred to the Division of Secondary Education.

The Division offered the following courses: Ed. 176, Ed. 308, Ed. 310, Ed. 475, Ed. 476, Ed. 570, and Ed. 574. Ed. 310 was offered in the evening program. Ed. 570 was offered in the extramural as well as the intramural program.

Members of the division carried heavy responsibilities within the university. Dr. Gilles continued as Director of the Summer Session and assumed the new position of Director of the Evening Division. Dr. Clarke served as assistant Director of the Alberta Committee on Educational Research. Dr. MacArthur and Dr. Clarke continue as consultants in the C.E.A.-Kellogg Short Course in Administration and Supervision. Dr. Dunlop acted as Director of the Alberta Advisory Committee on Educational Research. Members of the division served on the following university committees: Council of the School of Graduate Studies, the University Research Committee, Faculty Research Committee, Student Advisory Services, Board of Nurses Examiners, Salary Committee of the A.T.S.U.A., Library Committee, Radio Committee, Revisions Committee, Board of Teacher Education and Certification, Committee of the Evening Division, Alberta Advisory Committee on Educational Research.

In addition, staff members played major roles in national and provincial activities. Dr. Clarke served as Chairman of the Board of Directors of the Alberta Division of the Canadian Mental Health Association, and as a director of the Canadian Mental Health Association. He has also served for years on the Department of Education committees on Teacher Recruitment and Promotion Policies. Dr. MacArthur is a member of the Alberta C.E.A.-Kellogg Provincial Advisory Committee and continues his role as the official responsible for evaluation of the C.E.A.-Kellogg Five Year Project. Dr. Dunlop served on the Canadian Teachers' Federation Research Committee and participated in the work of the Management Committee of the C.E.A.-Kellogg Project. He also served as special consultant on the National Advisory Committee on Educational Research.

The members of the division also devoted time to the supervision of practice teaching. Each member had responsibility for twelve student teachers. In extension work the division was active at conventions and institutes, and delivered many addresses. Dr. MacArthur gave eleven papers. Mr. Harper addressed eighteen meetings and delivered a series of lectures to nurses of the Aberhart Sanatorium. Dr. Clarke's record is impressive. He participated in three Careers' Night programs, spoke to eleven Home and School meetings, sat on six panels, delivered four radio addresses, and spoke at thirteen additional meetings on educational and psychological problems. Dr. Gilles spoke at the Calgary City Teachers' Convention and at the Western Regional Conference of Teachers and Educators. The chairman spoke at the C.E.A. Conference in Quebec, and at the C.E.A.-Kellogg Short Course, and at a number of meetings and conventions.

Mr. Harper served as Director of the Education Clinic. During the year 325 intelligence tests were administered, and twenty-five cases were accepted for diagnosis and remedial treatment. In harmony with policy, only a limited number of cases are accepted, since the clinic serves primarily as an adjunct to teaching, rather than a service to the community.

The division was also active in writing on professional subjects. Two members, Dr. S. C. T. Clarke and Dr. J. G. Woodsworth, were co-authors of a

Grade Nine text on personal development entitled "Youth and Tomorrow." Articles were contributed by the chairman and Dr. Clarke to the *Alberta Journal of Educational Research*, the *A.T.A. Magazine* and the *Alberta School Trustees' Association Journal*. The chairman also contributed articles to *Canadian Education* and the *Manitoba Teacher*.

Supervision of graduate studies continues to be a major activity. Seven candidates completed requirements for the master's degree during the year under the supervision of members of the division.

Research has increased greatly since the organization of the Alberta Advisory Committee on Educational Research. Every member of the division is actively engaged in major research projects. A large measure of responsibility fell on Dr. Clarke and the Chairman for the conduct of research and the direction of the research organization. Dr. Harold S. Baker, Chairman of the Division of Secondary Education, deserves credit for an excellent job as editor of the *Journal*. As the report was being written the President had been informed that the Carnegie Corporation of New York had granted \$50,000 to be applied to the encouragement of educational research in the province. This may be regarded as a fitting recognition of our work in organizing and conducting research in this Faculty.

The division has accomplished much in the past year. It has carried heavy administrative, lecturing, extension and research responsibilities, and played a large part in provincial and national movements in education. The record of achievement is impressive when one considers that the work was done by four staff members and Dr. Gilles, whose administrative duties consume over half his time. It is not an overstatement to say that this division has provided educational leadership in a number of fields, and especially in educational and psychological research.

Division of Elementary Education (Dr. W. D. McDougall, Chairman)

In addition to their instructional and other responsibilities related to the undergraduate and graduate students, the members of the Division of Elementary Education endeavour to comply with requests for their services from the Department of Education, superintendents, institute and convention activities. The following members of the Division have been assisting the Curriculum Branch of the Department of Education in the organization and revision of the programs of study: Miss Caldwell, Mr. Hampson, Mr. Hodgson, Dr. MacGregor, Mr. Worth. The superintendents and teachers of the province make frequent requests for assistance at conventions and institutes. The following staff members have been especially occupied by such requests: Miss Caldwell, Mr. Card, Mr. Hampson, Mr. Hodgson, Dr. MacGregor, Mr. Worth. These extra duties, though cheerfully assumed, are making serious inroads into the instructional time and energy of staff members.

During the year Mr. Hodgson directed a special study to determine the effectiveness of instruction in elementary arithmetic in the schools of the province. Mr. Worth is currently engaged with Dr. Clarke in the study of promotion policies in the schools of the province. Other members of the Division assisted in the development of theses related to other aspects of elementary education. As the number of teachers who have degrees in elementary education increases, the demand for suitable post-graduate courses also increases, and the demand upon staff for advice and direction in the selection, development and evaluation of theses becomes increasingly heavy.

Some members of the division have been involved in major publications. Miss Lampard, Dr. Smith and Mr. McDougall contributed chapters to "Canadian Education Today" by Joseph Katz, and Dr. McDougall and Dr. Finn collaborated on the production of "Canada and the Western World".

Mr. Hodgson is vice-president and president elect of the Alberta Federation of Home and School Associations of the province. In connection with this, he attended the national conference in New Brunswick and accompanied Dr. Laycock on a brief tour of the North West Territories.

The introduction of a more selective matriculation requirement assisted materially in the up-grading of the Junior E program. When the matriculation requirement is made uniform with that for other University groups, the morale of this very fine group of young people will be very much improved.

Division of Secondary Education (Dr. H. S. Baker, Chairman)

With the expansion of the University and of the Faculty, the responsibilities of the Division of Secondary Education and Administration continue to grow. These responsibilities include teaching and the supervision of student teaching, committee work, participation in teachers' conventions and institutes, educational research, graduate studies, liaison and extension work with lay groups interested in education.

The Division offers basic courses in curriculum and education method, administration and educational philosophy. During 1955-56 Dr. Walker offered an evening course in philosophy; Dr. Walker and Mr. Pilkington offered graduate courses in the late afternoon, primarily as a service to city teachers. All members of the Division participated in the supervision of the student teaching program under the direction of Mrs. Rust.

Dr. Baker served on the Department's Senior High School Curriculum Committee, and is chairman of the Subcommittee on High School English. Dr. Walker is secretary of the Subcommittee on High School French. Mr. Melsness served on the Subcommittee on High School Science, Mr. Pilkington on the Leisure Reading and Recruitment committees. In addition, members served on various Faculty and University committees, and on those of the Alberta Teachers' Association. Mr. Melsness served on the executive of the A.T.S.U.A. and is president elect.

All members have participated in teachers' conventions either as guest speakers or as representatives of the Faculty. They have spoken also at Home and School Associations and career nights, and have contributed three panel discussions to the Faculty of Education radio series.

With more than one hundred active graduate students in secondary education and administration, graduate studies and research are becoming increasingly important in the work of the Division. Dr. Walker is Chairman of the Graduate Studies Seminar Committee. All members serve on thesis committees. All members, too, are involved in the conduct and publication of research. Dr. Baker served as editor of *The Alberta Journal of Educational Research*. Dr. Baker (in collaboration with Dr. Coutts), Mr. Pilkington (in collaboration with Dr. Clarke), and Dr. Walker have published articles in the Journal.

Mr. Melsness is continuing adviser to the C.E.A.-Kellogg Short Course for Superintendents. Mr. Pilkington is to serve in a similar capacity. Dr. Baker and Dr. Walker have so served.

During 1955-56 Dr. H. E. Smith, formerly Dean of the Faculty, has been with the Division in place of Mr. H. T. Sparby, on leave of absence with the Canadian Education Association.

Report of Dean R. M. Hardy of the Faculty of Engineering

The somewhat abnormal rate of increase in registration in the Faculty which has been evident for the past three sessions has continued. However the number in the first year class was practically indential with that of the previous year which may indicate that the size of the student body may become more stable during the next two to three years.

The graduating class this year at 145 students represents an increase of about 50% over the previous session. However the demand for engineering graduates from industry and the public services has continued to be substantial and the competition amongst the larger employers for young graduates has been greater this year than at any time in the past. The high demand for engineering graduates has applied to all fields of specialization.

The faculty is still concerned with the adequacy of the preparation of students in the high schools of the Province for work in the first year of engineering. The new high school curriculum does not appear to have improved the situation in regard to the difficulties of transition from the methods of the high school to those in the University. While the problem has been under study during the past three years agreement has not been reached as to the basic nature of the problem. However one significant point appears to be that the major difficulties arise with students entering the physical science pattern in the Faculty of Arts and the Faculty of Engineering. This whole question is becoming one of major public interest and concern because of the vastly increasing requirements for university graduates in these fields as compared to past years.

Despite the difficulty of attracting students to graduate programs in competition with the opportunities for young graduates in industry, the number of graduate students in the Faculty showed a slight increase. However the number of young engineers of superior ability who are proceeding to graduate studies is quite inadequate to satisfy the national needs.

All departments in the Faculty have been active in research work and instruction at the graduate level. Good progress has been made on the continuing program in the department of mining and metallurgy concerned with fundamental research in Driessen cone concentration and its application to the refining of uranium ores. Funds for this project are provided by the Atomic Energy Control Board and are administered by Eldorado Mining and Refining Limited.

In the department of electrical engineering research work has been undertaken concerned with characteristics of network analyzers to meet the modern requirements of power companies as a graduate student project. Work has also been undertaken on the characteristics of motors used for pumping oil at well heads and on the problem of radio interference set up by high voltage equipment which exists in several localities in the Province.

A detailed investigation was also undertaken in the department of electrical engineering in cooperation with the Calgary Power Company and the Montreal Engineering Company of the technical requirements of a network analyzer to suit the needs of the Prairie Provinces. As a result of these the Calgary

Power Company have donated a network analyzer to the University. This equipment is valued at approximately \$100,000, and will constitute a most substantial addition to the facilities in the department. Its installation is expected to be completed during 1957.

In the department of chemical and petroleum engineering research work continued on six separate and distinct pieces of research by full-time members of the department staff. Three other research projects were carried out in co-operation with the Alberta Research Council. The subjects of these are:—

Physical and Electrical Properties of Pembina Oil — Emulsion Drilling Fluids.

Vaporization Loss from Crude Oil.

P.V.T. Behaviour of Methane-Hydrogen Sulphide System.

Low Temperature Carbonization of Coal in a Fluidized Bed.

Rheology of Pembina Crude Oil.

Two Phase Vertical Flow.

Pyrolysis of Butane at High Temperature.

Partial Oxidation of n-Butane.

and, Molecular Sieve Adsorption of Methane and Nitrogen.

Financial support for certain of these projects was provided by Imperial Oil Limited, Pembina Pipeline Co. Limited and the Research Council of Alberta.

Three Master of Science theses were satisfactorily completed under the following titles in the department of chemical and petroleum engineering:

Low Temperature Carbonization of Coal in a Fluidized Bed.

Pyrolysis of Butane at High Temperatures.

and, Physical and Electrical Characteristics of Pembina Oil — Emulsion Drilling Fluids.

In the department of civil engineering research work was conducted concerning the characteristics of light weight aggregates for concrete; studies of laminated timber girders; river hydraulic and hydraulic structures problems; the effect of frost action on the strength characteristics of soils; aerial photographic interpretation to indicate subsoil characteristics; chemical treatments of soil to prevent frost heaving on highways, runways and airports; studies in the engineering properties of muskeg; admixtures for asphalt paving mixtures; the bending of vertical thin shells and vibrations in soils induced by reciprocating equipment.

Financial support for certain of these projects was provided from the National Research Council, the Research Council of Alberta, the Prairie Road Builders Section of the Canadian Construction Association, the Franki Compressed Pile Company of Canada and the Canadian Institute of Timber Construction.

Six Master of Science theses were satisfactorily completed under the following titles in the department of civil engineering:

The Effect of Freezing and Thawing on the Engineering Properties of Clays and Shales.

Development of Line Load Apparatus and Exploratory Studies in the Behaviour of Plywood Box Beams.

An Air Photo Analysis of Engineering Soils.

An Investigation of the Engineering Properties of Muskeg.

A Preliminary Investigation of the Effects of Polythene on Asphalt Paving Mixtures.

Stress-Strain Relationships of Light Weight Concrete.

One text book entitled "The Physical Properties of Solid Materials", was published by members of the department. A bulletin entitled "Farm Water Systems and Sewerage" prepared by members of the department was published under the auspices of the Prairie Rural Housing Committee sponsored by the Governments of the Provinces of Manitoba, Saskatchewan and Alberta and by Central Mortgage and Housing Corporation. This is a companion booklet to one prepared and published several years ago under the title "Treatment of Farm Water Supplies".

Various members of the academic staff of the Faculty have been active in providing professional engineering services and specialized technical assistance to both public authorities and industry.

Extension activities of members of the staff continued in the form of correspondence, lectures and radio talks.

Report of Dean W. F. Bowker of the Faculty of Law

The number of students has changed but little for several years. Demand for articulated students still exceeds supply. It is true that those who speak of the shortage of professional men never mention law, but there is a shortage in this province. The urgent needs of the large city firm are being met, but only because a number of graduates of other law schools come to Alberta.

There is still a demand for lawyers in smaller centres, in government, and the oil industry. The problem is of course to meet this demand without a lowering of standards. A mere increase in numbers is not a solution. It would be gratifying to have twice as many promising candidates as we now have. Perhaps methods of recruiting will have to be found.

Nearly all graduates enter into articles and then are admitted to the bar. In some law schools it is assumed that a substantial number of graduates are not interested in the practice of law; not so here. Indeed this faculty conceives its function to be that of preparing students for admission to practice.

Three of our former students — all Rhodes Scholars — are at Oxford University. At present there are no other graduates studying at other Universities.

During the past year Professor Smith has been at Stanford University on sabbatical leave, continuing his research in Constitutional Law. In his absence the faculty has received as in the past the unstinting help of Edmonton practitioners who assume the teaching of a number of courses.

The problem of building up the number of full-time teachers is difficult. For a number of years we have had four and it would be desirable to have more, yet good teachers are very scarce.

The faculty has been fortunate in having added to the staff this year Assistant Professor D. Sherbaniuk, an Alberta graduate. He replaced Assistant Professor A. B. Weston who resigned. Associate Professor G. W. Reed is to leave shortly to take a non-teaching position. Professor Reed's departure is a great loss. His scholarship, teaching ability and administrative capacity are of the highest order. During his seven years here, he has made a fine contribution to the faculty and to the University. His leaving accentuates the difficult problem of finding new staff members.

The faculty is anxious to complete the revision of curriculum which has been

under study for years. This is becoming urgent but is hard to implement without a larger full-time staff.

Generally speaking the affairs of the school went smoothly. The new library is an excellent place for students to work, and our gradually increasing law library is accessible to the students, who make good use of it. As usual the students took an active part in students' union affairs, while keeping up their work. The usual good morale prevailed.

A noteworthy event was the publication by the students of the first issue of the Alberta Law Review, which in a sense is a revival of the old Alberta Law Quarterly. Members of the profession have spoken favourably of the first issue. The journal will give the students a good opportunity to gain experience in legal writing, and to contribute articles of interest and use to the profession.

As in most years, the faculty arranged for a number of talks on subjects of interest to the students. Three solicitors for oil companies — Mr. D. E. Lewis, Mr. W. Henricks and Mr. C. D. Williams came up from Calgary at their own expense and spoke to the students on different aspects of oil and gas law, and the Honourable Mr. Justice Primrose gave a most helpful and stimulating talk on the practice of law.

The faculty's relations with the Law Society have continued to be the best. In the last few years and particularly this year the Law Society has asked the faculty to cooperate in their effort to develop a programme of continuing legal education. At its meeting the Law Society approved in principle a scheme to establish a legal research centre. The Law Society looks to this faculty to assist in such a programme, and rightly so, but there is a practical difficulty in that the staff has a fairly heavy teaching load and all are engaged in work leading to graduate degrees. Other worthwhile activities in which the staff is called on to take part are those of the Canadian Bar Association and the Association of Canadian Law Teachers, and one member is on the Conference of Commissioners of Uniformity of Legislation in Canada. In addition all are frequently asked to address meetings of one kind or another. All these extra curricular activities are important, and are valuable to the staff, but a point can be reached where these will have to be curtailed if teaching and the work withing the faculty are not to suffer.

Report of Dean J. W. Scott of the Faculty of Medicine

The Faculty of Medicine admitted only 58 students to the first year class in 1955. The decrease in enrolment resulted from the dearth of candidates who met the basic requirements for admission to medicine. It was found necessary to accept several students with averages below 65 per cent to make up a class of 58 students. As a result of this lowering of admission standards, we may expect a number of failures in the final examinations in first year.

Enrolment in the Faculty of Medicine for the 1955-56 session was as follows:

	<i>Men</i>	<i>Women</i>	<i>Total</i>
1st Year	55	3	58
2nd Year	48	1	49
3rd Year	46	4	50
4th Year	57	2	59
	206	10	216

This is the first year that no students from the University of Saskatchewan have been admitted with advanced standing. Ordinarily we have admitted four to eight Saskatchewan students to our third year class.

During the Spring and Fall Convocations 55 students received the degree of Doctor of Medicine.

In the autumn of 1956 the first trainees of the School of Physiotherapy will receive their diplomas. This marks a further step in the increasing role of the University in bringing adequate care to the people of Western Canada.

One new department was created this year with the separation of the sub-department of Anaesthesia from the Department of Medicine and the setting up of a separate department of Anaesthesia under Assistant Clinical Professor E. A. Gain.

A few staff changes have taken place. Professor J. W. Pearce succeeded Professor H. V. Rice as head of the Department of Physiology. Dr. L. B. Smillie succeeded Dr. A. G. Stewart as Assistant Professor of Biochemistry.

Professor M. R. Bow of the Department of Preventive Medicine will retire this year after many years of outstanding service in this department. He will be succeeded by Dr. C. R. Amies.

The Associate Professorship of Medical Research, endowed by the Muttart Foundation, as mentioned in last year's report, has been filled by Dr. R. S. Fraser, who was a Markle Scholar in our Department of Medicine up to that time. Mr. Fraser continues as Markle Scholar in his new position.

The proposed extension of the Provincial Laboratory will give increased facilities for teaching and research in the Departments of Pathology, Bacteriology, Virology and Preventive Medicine.

The high standard of teaching in the basic science and clinical departments at both undergraduate and graduate level has been maintained. Two new graduate courses have been introduced in the Department of Physiology. The affiliated teaching hospitals of the Faculty of Medicine have continued to co-operate in making available their facilities for clinical teaching.

The number of graduate students in all departments has increased. In the basic science departments there are at present 8 graduate students registered in the School of Graduate Studies, most of whom are actively engaged in research projects and are proceeding to M.Sc. or Ph.D degrees. The clinical graduate training program continues to attract a number of students who are proceeding to Royal College of Physicians and Surgeons examination for Certification and Fellowship in one of the medical specialties. There are now 19 students enrolled in this program. The plan calls for active co-operation between the basic science and clinical departments.

The Committee on Continuing Medical Studies has further expanded its program for the training of practising doctors in our Province in the latest diagnostic and therapeutic procedures. In collaboration with the Alberta Division of the Canadian Medical Association, 15 different centres in Alberta were visited by travelling teams of members of our Faculty. Lectures, clinics, or ward rounds were held in Vegreville, Vermilion, Grande Prairie, Peace River, Red Deer, Lacombe, Camrose, Ponoka, Lamont, St. Paul, Westlock, Barrhead, Lethbridge, Drumheller, and Medicine Hat. This extension or circuit type of postgraduate teaching is a recognized function of a modern

medical school and is appreciated by the local Medical Societies which were visited.

This year the Twenty-fifth Annual Refresher Course was combined with a sectional meeting of the American College of Surgeons. Over two hundred doctors attended the meeting. There was inaugurated at this meeting the W. Fulton Gillespie Memorial Lectureship in honor of the late Dr. Gillespie, Professor of Surgery and founder of the Annual Refresher Course. The inaugural lecture was given by Dr. J. T. Priestley, Professor of Surgery of the Mayo Foundation.

The staff of the Faculty of Medicine continues to carry an increasing load of teaching for other Schools and Faculties in the University. It is of interest that students of nine other faculties and schools receive instruction by members of our faculty, as do graduate and undergraduate nurses. Approximately 29 such courses are given each year.

In addition to teaching commitments our academic staff has carried on a successful program of research. It will be noted from the list of publications submitted that research activity covers a very wide field of interest at both fundamental and clinical levels. The facilities of the J. S. McEachern Cancer Research Laboratory and the continued support of Cancer Research at both the basic science and clinical level by the Alberta Division of the Canadian Cancer Society have been of the greatest value. In addition, we have received generous supporting grants for medical research from the National Research Council, the Defence Research Board, the National Cancer Institute, the Medical Research Fund set up by the University, and private donations.

As in former years many of our faculty members have made significant contributions to the medical life of Canada as officers of national medical organizations such as the Canadian Medical Association, the Royal College of Physicians and Surgeons of Canada, the National Cancer Institute, the National Research Council, the Defence Research Board, the Association of Canadian Medical Colleges, the Canadian Society for Clinical Research, the American College of Physicians, and the American College of Surgeons.

Many of our teaching staff have travelled to scientific meetings in Canada, the United States, Great Britain, and Continental Europe. They have presented scientific papers, acted as chairmen, and taken an active part in discussion of papers.

It is gratifying to note the rate of growth and development in the Faculty of Medicine in the past 10 years and the expansion of teaching and research activities.

Distinguished visitors who visited the Campus in the past year, and spoke to students or staff or both, include:

Dr. Ian McMillan of St. Thomas' Hospital, London,
and the Laboratory of Cardiovascular Hemodynamics, Bethesda, Maryland.

Dr. Sheila Sherlock of the University of London
and the London Postgraduate Hospital.

Dr. L. V. Ackerman, Professor of Pathology, Washington University, St. Louis.

Dr. Robert Cruikshank, Professor of Bacteriology,
Wright-Fleming Institute of Microbiology,
London.

Report of Professor H. E. M. Penhale, Director of the School of Nursing

I have the honour to present the report of the School of Nursing for the session 1955-56.

Inherent in the philosophy upon which the programs in the School of Nursing are based is the belief that the nurses' preparation must reflect the needs of the community in which she is to serve. Since the health and sickness needs of people vary, the nursing curricula must be evaluated periodically and be revised to keep pace with the varying needs of society.

During the past year a number of changes were made in the curricula. Students in first-year nursing were given assistance in reading and study techniques. A course in the professional responsibilities and privileges of the modern nurse was instituted in order to help the young student become more aware of the relationship between her general education and the special preparation needed for the development of professional competence in nursing.

Courses in teaching, supervision and public health were made available to students in the final years of the degree programs. The graduates of these programs are prepared for beginning positions in public health nursing, as well as for practice in hospital.

Arrangements were made for field experience in psychiatric nursing for all degree students. This experience aims to increase the students' understanding of personality disorders. It also aims to develop an appreciation of the role of the nurse in the emotional aspect of total patient care.

An affiliation in rural hospitals was included in the degree program. It provides educational experiences which assist in the integration of social and health aspects of the curriculum through nursing experiences in rural hospitals, through seeing health programs in the rural community and through participation in community activities.

Field experience for students majoring in Teaching-Supervision was increased from four to six weeks. In arranging the experience, the individuals' background of preparation and interests were considered.

Students registered in the program leading to the Certification in Advanced Practical Obstetrics were given courses in the principles of teaching and supervision. Practice in teaching was included as part of the program.

The members of the staff continue in their efforts to meet the needs of nurses and nursing. An evening course in Ward Management was offered at the Royal Alexandra Hospital during the fall term. The course was repeated at the Aberhart Memorial Sanatorium during the spring term. An Institute in Team Nursing was presented in Calgary and repeated in Edmonton. A Workshop in Communications was offered in Calgary. The staff has participated in nurse recruitment programs in Edmonton and in the surrounding area. It was a privilege to participate again in the program for Farm Young People.

The numbers registering in the various programs continues to increase. The total registration is 166 as compared with 144 of one year ago. The greatest increase has been in first-year degree nursing at the Calgary Branch and in the post basic degree program.

Report of Dr. J. R. Fowler, Director of the School of Physiotherapy

The second year of the new two-year Diploma Course in Physiotherapy was successfully inaugurated in the fall of 1955. The School was most fortunate

in having adequate space as result of renovations to the former Canteen Building. This landmark now bears signs reading "School of Physiotherapy", and the School has become a definite physical entity on the campus.

In the enrolment for the 1955-56 session the following information is presented:—(See page 37.)

The 1954-55 class completed successful 1st year summer internships in accredited hospitals in Calgary and Edmonton. In view of the fact that they were in competition with student internes of two years' experience from Eastern Schools, the supervisor's reports were indeed gratifying. This year the students in first year once again are being placed in Calgary and Edmonton. The second year students are completing their internships in hospitals throughout Western Canada.

The School was most fortunate in securing the services of a full time instructor, Miss M. Gordon, who qualified in England, and spent one year on the teaching staff of the University of Toronto before joining the University of Alberta.

New courses were inaugurated in the second year, and were capably directed by the teaching staff of the School, the University Hospital Medical Staff and supporting lecturers in Vocational Services. The second year class also took part in a 12 hours a week practical hospital internship during the winter session under the directorship of the Physical Medicine Department at the University Hospital.

Since the previous year's annual report the graduating students from the University of Alberta have been recognized by the Dominion Professional Body, and on registration are members of the Canadian Physiotherapy Association.

As the first graduating class nears Convocation every student has been placed in the four Western provinces. Despite these placements requests are continually being received from hospitals all over Western Canada for University of Alberta graduates. Needless to say, with this constant demand for such professional therapists the School will be fulfilling a public need for years to come.

Report of Dr. M. J. Huston, Dean of the Faculty of Pharmacy

Academic

A significant milestone in the development of pharmacy on the campus was reached in 1955 with the approval of faculty status by the Board of Governors in June. Pharmacy was established in Alberta in 1914 as a department in the Faculty of Medicine. In 1917 it was elevated to a School in the Faculty of Arts and Science. In 1939 the School was placed under the Faculty of Medicine and in 1950 it became autonomous.

Enrolment continued high this session with a total of 125 students. (See pages 37 and 38.)

Dr. J. R. Murray completed the requirements for the Ph.D. degree at Ohio State University.

For the first time a graduate course was offered in pharmacy. This was Pharmacy 101, a course in radioactive tracer techniques presented by Dr. Riedel.

A series of four lectures on pharmacy was presented by staff members to

second year medical students. Dr. Riedel gave a number of lectures to the Public Health Nurses on laws pertaining to the use of drugs and public health aspects of the atomic age. Dr. Riedel presented lectures to the second year medical students on the medical use of radioactive isotopes and drugs used in the treatment of neoplastic disease.

Two new awards were made available in pharmacy:—The Canadian Foundation for Advancement of Pharmacy Bursary of the value of \$250.00 as a matriculation award; and the Burroughs Wellcome Bursary of the value of \$250.00 for an outstanding student entering the second or third year of the pharmacy course.

Ten members of the instructional staff, full and part-time, visited the College of Pharmacy, University of Saskatchewan for an inter-departmental conference in February. This was a return visit since the staff of the Saskatchewan College visited Alberta the previous year. Two days were spent in tours of the facilities and in discussions of teaching and research problems.

Extension

The Faculty of Pharmacy conducted a refresher course in conjunction with the annual convention of the Alberta Pharmaceutical Association in Calgary.

During the year four bulletins on recent advances in pharmacy were prepared and distributed to all practising pharmacists in the province.

Refresher course lectures were presented by the faculty members at nine centres throughout the province during the Fall. Expenses of the tour were paid by the Alberta Pharmaceutical Association and the Canadian Foundation for the Advancement of Pharmacy. Meetings were held in Edmonton, Vermilion, Red Deer, Stettler, Peace River, Camrose, Calgary, Lethbridge and Medicine Hat. Over 300 pharmacists attended.

Dr. Murray served as president of the Parkallen Home and School Association and acted as a leader for a Cub group. He also acted as Editor of the Bulletin of the Canadian Conference of Pharmaceutical Faculties. Mr. Anderson was active during the year in the Y's Mens Club and Dr. Huston was elected president of the Edmonton Kiwanis Club. Dr. Riedel again served as an abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica* and continued his position as Chief Training Officer for the University Reserve Squadron. Dr. Huston was nominated to the Editorial Advisory Board of the Canadian Pharmaceutical Journal.

Due to the activities of Dr. Murray in pointing out the hazards of careless handling of toxic materials by the public an educational programme was undertaken by the pharmacists of the province and over a hundred-thousand counterdose charts were distributed.

Staff members presented papers to professional societies, service clubs, and similar groups as follows:—Dr. Murray 13; Dr. Riedel 6; Professor Anderson 2; and Dr. Huston 26.

Research

An Alberta student, Mr. P. W. Miskey won the E. L. Woods Memorial Prize for undergraduate research in pharmacy in competition with other students throughout Canada.

Two students undertook work during the year towards M.Sc. degrees with research problems in the field of pharmacology.

Dr. Murray continued his research begun at Ohio State University, on the effect of certain drugs on experimental hypertension in animals.

Mr. Anderson continued his investigations in the field of pharmaceuticals and product formulations.

Dr. Riedel extended his research in the use of isotopes in experimental biochemistry. In addition to studies on phosphorus metabolism related to tumour growth (supported by a National Cancer Institute grant) studies were done on the carcinogenic and anticarcinogenic activity of certain chemicals related to indole synthesized by Dr. R. K. Brown of Chemistry. This work was also supported by a National Cancer Institute grant.

Dr. Huston applied a modification of the Warburg technique to measurements of the effect of cardiac glycosides on the respiration of heart tissue.

Other problems being investigated in the department included:—chemical evaluation of antacids, electrophoresis of alkaloids, applications of non-aqueous titrations, photomicrographs of certain drugs, paper chromatography of barbiturates, testing of samples of distilled water for bacterial contamination, the effect of solvent mixtures on solubilities and the polarographic measurements of contaminant lead and arsenic content of chemicals.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

The School of Physical Education has had an exceedingly busy and difficult year — busy because of the increased enrolment and extension services rendered, and difficult because of facility deficiencies.

Staff members of the School have provided instruction for forty-eight students taking the Degree Course in Physical Education, approximately three hundred first-year students in Education and seven hundred and fifty in the Service (Required) Program. They have also supervised the intramural program with over two thousand participants and the intercollegiate athletic teams in twelve different sports.

Associate Professor W. D. Smith has been on sabbatical leave during the session and is completing the requirements for a doctorate degree at the University of Buffalo. Mr. A. F. Affleck has started work toward a master's degree in Recreation at the University of Indiana. A new and valued addition to the staff is Mr. Stephen Mendryk.

Members of the staff have been active in both local and national professional associations. Dr. M. L. Van Vliet is National Vice-President of the Canadian Association for Health, Physical Education and Recreation and President of the Western Canadian Intercollegiate Athletic Union. Mr. Affleck and Miss P. Austin are chairing special committees of the National Canadian Association.

Extension. As usual, the School personnel have been active in various phases of extension services. Many radio and television appearances were made. Contributions both as instructors and advisers were made to the Recreation Leaders School, the Badminton School, the Recreation Institute, Basketball Officials' Schools, the Track and Field Clinic, the Edmonton Recreation Commission, the Alberta Recreation Board, and as adjudicators for school festivals. Seventeen addresses were given to schools, service clubs, and home and school groups. Mr. Eriksson and Miss Hastie were active in the St. John Ambulance, Mr. Affleck in C.A.H.P.E.R. and the Y's Men's Club and the

Alberta Recreation Association, Mr. McLachlin in the Boy Scouts, and Dr. Van Vliet in Rotary, the Edmonton Recreation Commission, the Alberta Recreation Board and C.A.H.P.E.R.

B.Ed. in P.E. The demand for graduates in physical education continues to exceed the supply. However, a first-year class of twenty-one tends to indicate that more students are becoming aware of physical education and recreation as professions and prospects look brighter for the future. The possibility of increased facilities in the near future will encourage more students to elect physical education or recreation or both for careers.

Service Program. This program required of all first-year students is at the saturation point with present facilities, yet the need for physical fitness, balance, carriage, poise, grace, co-ordination and relief from tension, continue to be important factors in the life of a student. The right amount and the correct type of exercise, along with minimum swimming proficiency for all students, is the goal of the School.

Education Students. Students in the Faculty of Education are gradually coming to realize that most of them will have some direct or indirect responsibility for physical education in the schools. Every effort is being made to arrange for smaller classes for more efficient instruction.

Intramural Sports. The intramural program was highlighted this year by "Frontier Day" and by the over-all increase in participation. Participation results follow:

	<i>Men</i>	
	1954-55	1955-56
Number of Sports	11	10
Number of Teams Playing	122	142
Number of Games Played	526	610
Number of Participants	1535	1792
	<i>Women</i>	
Number of Sports	8	8
Number of Teams Playing	65	71
Number of Games Played	223	252
Number of Participants	657	947

Intercollegiate Athletics. The intercollegiate athletic program continues to be hampered by limited competition. There is a need for a completely revised program to be discussed at the presidential level of the four western universities.

Conclusion. The increased demand for graduates in physical education, and the new government grants to communities for qualified recreational directors, point out the need for more graduates in these two fields. People are beginning to realize that good community leadership requires professionally trained personnel. The University of Alberta, through increased staff and facilities for the School of Physical Education, is endeavoring to meet these needs.

Report of Dr. A. L. Doucette, Director of the Calgary Branch

1. General Items:

(a) Student Enrolment:—(See page 35.)

The overall day-time enrolment at the Calgary Branch during 1955-56 is just under 400 students, an increase of ten per cent over the figure for 1954-55.

Adding to this, the total evening class enrolments, with and without credit, it is correct to say that we are rendering University service to some 1100 to 1200 people. This is a significant contribution to the Calgary community.

This year there was a very heavy increase in Arts and Science student population.

In the Faculty of Education, there was no gain in the number of students in the one year Emergency Training Program over the figure for 1954-55. There was however a gain of fourteen per cent in the number of students in the Bachelor of Education Degree program. Regardless of this latter gain, the enrolments in the Faculty of Education reflect the critical teacher shortage situation and they serve to indicate that we are not training sufficient teachers to meet the province's needs.

In retrospect, the enrolment of full-time day students during 1955-56 is nearly three times the 1945 figure when the Calgary Branch was established.

With Rosedale Public School students in Grades I to IX removed from the North Hill Campus, the University Branch has filled all the space vacated, and already additional space is needed.

(b) Grounds and Premises—North Hill Site:

With the exodus of staff members from the unsatisfactory offices in the old dental hut, into permanent offices in the West Wing of the Education Building, staff are considerably more content.

With the expansion in buildings at the Provincial Institute of Technology and Art, there is no longer any place for expansion of the Calgary Branch of the University, on the present site.

(c) Closing Exercises:

This annual function continues to be an important and successful affair, and is considered to be significant in the lives of the students at the Branch. It affords an opportunity for the Calgary public and the parents of students to become acquainted with University offerings in Calgary and to meet with staff members and with visiting officials.

For the first time, His Honor Lieutenant Governor J. J. Bowlen, Official Visitor, of the University was member of the Platform Party at the Closing Exercises in Calgary on April 6, 1956. Other visiting officials were the Chancellor Dr. E. P. Scarlett, who acted as Chairman of the Exercises and who was also Guest Speaker; Dr. Johns, Dean of Arts and Science, who also represented the President; Dr. H. T. Coutts, Dean, Faculty of Education; and Morrison L. Watts, Director of Curriculum in the Department of Education who represented the Minister of Education.

(d) Open House:

Staff and students decided to dispense with this activity this year because it was felt that there was nothing particularly new to show the parents and public over that which was displayed last year.

(e) Radio Talks:

Miss King, Mr. Lindstedt, Dr. Doucette, Dr. Woodsworth, Dr. Aikenhead and Dr. Finn contributed to Radio Broadcasts which were heard in the cities of Edmonton and Calgary.

(f) *Teachers' Conventions:*

Dr. Doucette was the Alberta Teachers' Association guest speaker at Fairview. Contributing to conventions in the Southern part of the Province, were Dr. Finn, Miss Newton, Dr. Aikenhead, Mr. Lindstedt and others.

(g) *Career Days:*

Staff members, both in Arts and Science and in the Faculty of Education, rendered assistance at Career Days in and out of the City of Calgary.

(h) *Teacher Recruitment Meetings:*

Meetings were held under the auspices of the Provincial Home and School Association and the Senior Chambers of Commerce of Edmonton and Calgary and Lethbridge. Dr. Doucette, Dr. Aikenhead and Dr. Woodsworth were invited to attend and served at all three points.

(i) *Western Canada Conference on Teacher Education:*

This Conference was held in Vancouver in May, 1956. The Calgary Representatives this year were Dr. Woodsworth and Mr. S. A. Lindstedt, both from the Faculty of Education.

(j) *Western Canada Student Teachers' Conference:*

This Conference was held in Winnipeg in the Spring of 1956. Student representative from Calgary this year was Bruce Northam.

(k) *Education Undegraduate Society:*

This Faculty club was especially active this year and brought in speakers from the Alberta Teachers Association in Edmonton, School Trustees representative from Medicine Hat, also the Dean of the Faculty of Education, and others.

(l) *The President's Personal Contact with the Branch:*

President Stewart was able to find time to address the Student Body in the Fall of 1955 and to meet with the staff in the Spring of 1956. These contacts by the Senior Administrative Head of the University are appreciated and of very great value.

(m) *World University Service:*

The Treasure Van Sale was held in Calgary for the second year, and while the receipts were not as high as last year, the sale was very successful. Miss Marian Frayn, the 1955-56 Overseas Delegate to Japan gave several talks in the Calgary Community and also to students at the Branch illustrating her talk with colored slides taken in Japan. There will be no Overseas Delegate from the Calgary Branch during 1956-57.

2. *Special Reports:*

(a) *Faculty of Arts and Science:*

The staff of the Faculty of Arts and Science in Calgary this year numbered nine full-time members and three part-time members. This was a decrease of one part-time staff member, since the Latin 2, which Miss Giles offered last year was taken over by Dr. Graham in addition to his French classes. Mrs. Bagley replaced Dr. A. Roginsky, giving help in both Biology and Chemistry laboratories, where Dr. Roginsky was a lecturer in Chemistry alone. No new subjects were offered this year, but Geology I is to be added in the Fall of 1957, with a part-time Instructor.

The enrolment in Arts and Science almost doubled rising from 45 full-time and 8 part-time students in 1954 to 89 full-time and 14 part-time students in 1955. Of these, eight dropped out during the course of the year. The increase in Arts and Science seems to have occurred mostly among borderline students or those from very modest homes who perhaps could not have afforded to go to Edmonton. This is a laudatory trend, but preliminary scrutiny of final examination results corroborated by evidence through the years seems to indicate that we had a much poorer student body this year.

The *Humanities Association* continued its activities with Dr. Willard Allen as Chairman. Meetings for the year included the following:

- November 9: Mr. Ernest Watkins of Calgary:
- 1955 "The Decline of Socialism and Its Effect on Society"
- December 7: Mr. Gordon Peacock, Lecturer in Drama, University of Alberta, Edmonton:
- "Canadian Theatre: The Myth and Reality".
- January 20: Dr. J. W. T. Spinks, Professor of Chemistry, University of 1956 Saskatchewan:
- "Science and the Humanities".
- February 17: Mr. J. T. Jones, Professor of English, University of Alberta, Edmonton:
- "George Bernard Shaw, 1856-1950".
- March 13: Dr. V. E. Graham, Associate Professor of French, University of Alberta, Calgary:
- "Foreign Languages in Education: a Comparison of Michigan and Alberta".

The *French Alliance* continued to meet at the University with Dr. Graham as President. Two visiting speakers from France were heard during the year, and in addition to regular monthly meetings, the French Alliance sponsored the presentation in Calgary of the play "Knock" For this event there was an audience of about 300 people. Expenses were high (\$282.50) and receipts pretty well offset the expenses (\$213.25). The French Alliance, however, was well pleased with results.

(b) *Faculty of Education:*

At the end of the 1954-55 term, Mr. C. Hampson, lecturer in Science and Mathematics, was transferred to the Faculty of Education, Edmonton. To replace him at Calgary, Mr. Sidney Lindstedt, Superintendent of Schools at Rocky Mountain House, was appointed as Associate Professor.

The heavy class loads of the teaching staff at the Calgary Branch, somewhat increased by the extra enrolment, resulted in the appointment of one new staff member in the field of science. Dr. Lee Ford, from Butler, Indiana and a Graduate of Minnesota, was appointed as Assistant Professor to fill this position.

Mr. Earl Buxton, Associate Professor in Education in the field of English at the Calgary Branch was granted one year's leave of absence to attend Stanford University in order to pursue studies for his Doctoral Degree. Mr. Buxton was granted a Fellowship under the Abraham Rosenberg Foundation, which made it possible for Mr. Buxton to continue his Graduate Studies.

Mr. Frank Baer, Sessional Lecturer in English, replaced Mr. Buxton for the 1955-56 Session.

During the summer of 1955, Rosedale Elementary School was built near the Campus, and leased to the Department of Public Works. This made it possible to move the University Demonstration School off the Campus, and nine classrooms and two offices were released for University use. Two of these rooms became office space for staff members; the library was extended by the addition of one room; the art room was enlarged to the extent of one half room; women students were granted one room as a lounge; the bookstore occupied one room; and the remaining rooms were used as additional lecture rooms.

Moving the Demonstration School off the Campus, resulted in the classrooms being used less for demonstration work. Because of this condition, practically all of the Practice Teaching for 2nd-Year Bachelor of Education students was taken at the Rosedale School. The Demonstration School Staff are to be commended for the fact that they accepted the increased load of Practice Teaching without complaint.

(c) Advisory Services:

1. Accommodation:

Late in the fall of 1955 the Advisory Services at the Calgary Branch were moved to a spacious office on the third floor of the Main Building. This has been a vast improvement, especially from the point of view of privacy for interviewers, over the accommodation in the old Air Force hut. The consideration of the Administration in the matter of furnishing this office attractively has been very much appreciated.

2. General Nature of Activities:

This year, as in previous years, Advisory Services at the Calgary Branch has functioned in the service of students who require counselling in all areas of human adjustment: course selection, vocational guidance, and social and emotional adjustment. In addition this service has continued its responsibility for the standardized testing program carried out during Registration Week and for the filing of this and other information in individual folders. It has been the policy at this Branch to encourage students to receive an interpretation of these standardized test results from the Counsellor. Many have done so.

3. Some Specifics:

It is conservatively estimated that during the period, September to May, an average of three hours per day, Monday through Friday, was spent in interviewing students or prospective students. The Administration's provision of Tuesdays and Thursdays as non-lecture days has expedited the scheduling of these Advisory Services interviews. It is hoped that this policy will be continued.

Only one student has been referred to the Provincial Guidance Clinic this year for special testing and therapy. This contrasts with an average of five to seven in previous years.

By far the greatest number of counselling hours have been spent in helping students to better their skills.

4. Relations with N.E.S.:

The arrival of a full-time employee of the National Employment Service (Mr. Baker) on this Campus has released Student Advisory Services from the duty of helping students find summer employment. Relations with Mr. Baker have been very cordial and his willingness to do everything in his power to place our students has been much appreciated.

5. *Liaison with Edmonton:*

There is a normal flow of records between the Director's Office in Edmonton and the office of the Counsellor at the Calgary Branch. The assumption of the Edmonton office of the responsibility for scoring and tabulating Freshmen Tests represents a big improvement for this Branch over the time when these tests were scored by hand locally. Both Dr. Cook and Mr. Hough have been most considerate of the needs of the Calgary Branch. Moreover, in their talks at Career Days in southern Alberta points, they have actively promoted the Calgary Branch as the logical institution for higher learning for those who live in the south of the province.

(d) *The Practice-Teaching Program in 1955-56;*

Dr. J. D. Aikenhead, Supervisor of Practice-Teaching, reports that four groups were served: those taking the one-year Junior "E" Course; those taking the 2nd-Year of the B.Ed. Program; students returning (Transfer Program) for the 2nd-Year of the B.Ed. Program after teaching on a Junior "E" or Temporary License; and the students in the 2nd-Year of the Industrial Arts Program.

Dr. T. G. Finn and Mr. S. A. Lindstedt arranged schedules and supervised the last three mentioned groups. Dr. Aikenhead arranged routines for the Junior "E" Students

The students in the B.Ed. Program have nine weeks (three weeks to a classroom) of Practice-Teaching for mornings only. The weeks are not continuous, because a short intermission is arranged. This approximates 135-140 hours for each student in the classroom. During the last three days, the student is in full charge of the classroom. This was an experiment initiated by Dr. Finn in 1954-55 and has been found useful. Those students in the Transfer Program receive additional assignments in Practice-Teaching to add up to the same time the full-time B.Ed. students receive. All students receive at least one visit from a University staff member, while most students had two to three visits. A detailed report was given by the staff member to each student after the visit, in addition to a conference covering the lesson. The demonstration-teacher also files a synoptic report for each three-week period for each student.

A variation was tried in the Junior "E" Program in continuous rural work. The students arranged themselves in pairs. Each pair goes to a city room for one-week before Christmas. Each pair goes to a rural school before Christmas. The same two students return to the same rural school after Christmas for a two-week period. This gives each students four-weeks practice-teaching, and three in the same rural classroom. At the close of the first-week in the rural school, all of the students who will work in that rural school, begin to plan an Enterprise or a Unit of work for Grades 7-8-9. This planning continues until the first week of January under the direction of a University teacher. Two conferences were held Saturdays with the students, demonstration-teachers, and University staff together. This insures greater continuity and guarantees that each student would leave in May with some work ready for the next year, and also will possess a basic understanding of the core for instruction in the elementary or the junior high school.

For the first time a set figure was allocated by the Director for Practice-Teaching Travel Expenses, which assured every student being visited at least once, while most were called upon twice and some had three visits. Most

demonstration-teachers worked hard. University staff members put in many extra hours both on planning Units and in driving and visiting, and reporting on visits as well as conferences afterwards.

Dr. Aikenhead reports that all in all, the effect of team work resulted in a very successful year of Practice-Teaching.

(e) *Athletics and Recreation:*

Mr. L. Goodwin and Mrs. J. Epton are responsible for the Athletic Program at the Calgary Branch.

In addition to the regular Service Program of Physical Education for the Arts and Science students, and the prescribed course for those in Education, an intensive and highly successful Intramural and Intercollegiate Program of Athletics and Recreation was carried out.

The intramural activities were carried on during the noon intermission after the class hours and to a limited extent during the evening. This program was devised to give every individual at the University Branch an opportunity to be a participant in the team or individual sport of his choice, and to encourage each individual to take part in at least one sport. Each activity was open to all registered students.

A brief breakdown of the activities and the number participating regularly is as follows:

Basketball — men	60
Basketball — women	40
Volleyball — men	40
Volleyball — women	40
Curling —	50
Tumbling —	10
Badminton —	25
Table Tennis —	100

Intercollegiate activities, both practices and playing games were confined to the evenings. Because of the lack of gymnasium space, it was necessary to rent a hall from the local School Board. Most of the activities were organized into Leagues under the auspices of the CALGARY INTERCOLLEGIATE ATHLETIC ASSOCIATION, an organization made up of the Provincial Institute of Technology and Art, Mount Royal College, Olds Agricultural School, and the University of Alberta, Calgary. Some exhibition games were played both with local and outside organizations. Our teams travelled to take part in games in Nanton, Olds, Red Deer and Edmonton. No team travelled more than four times. Our rule of prohibiting a player from being on more than one "Varsity" team was enforced.

The number participating on each "Varsity" team would include:

Basketball — men	10
Basketball — women	10
Hockey —	15
Volleyball —	10
Badminton —	8

(f) *Library:*

The library has had a good year and a busy one. The second West Wing, opened for the Fall Term of 1956, has proved useful for meeting the problem

of seating accommodation. The attendance is represented by a figure of 50,186, an increase of 12,144 (30%) over 1954-55.

The overnight stack figures rose to 8,930, an increase of 1,655 or 23% over 1954-55. The overnight reserves increased by some 33 1/3%. Reading Room Reserves were up 9%

There has been a slight increase in the number of books borrowed and lent under the inter-library loan plan. This year we have attempted to assist three staff members in particular: Mr. Martin, in a study in the field of Physics; Dr. Lee Ford, guest instructor from Indiana in the field of genetics; and Dr. Victor Graham in French Literature. This year is the first year that we have lent books to Universities in the United States.

We are particularly happy with the addition to our library of early reports and maps on Canadiana — gift from the Pearce Collection, Champlain Society publications — 55 volumes, gift from Rutherford and also the Palliser Report (photostat).

The growth of the Library is indicated by the present situation: with the addition of the second wing, the Library is twice its original length, The end door of 1946 is now the central one, but space is still at a premium. Nine units of steel shelving, totalling 189 feet, arrived in February last and already are half filled.

Miss Grant, the Librarian, reports that the Library, being organized on the Open Stack principle, must have books, pamphlets, pictures, records, periodicals, and other material, *accessible* to staff and students. She states that this requires more space. More students are using more books and are learning to utilize more services.

(g) Assistant Provost Duties:

Dr. Allan Gibb, became the Assistant Provost, succeeding Mr. Earl W. Buxton, who had served six years in that office. Dr. Gibb acted as Assistant Provost, responsible for student discipline and as a liaison person between the Students' Council and the Administration.

Dr. Gibb reports that at the student level in spite of the usual friendly rivalry, there existed a remarkable spirit of cooperation between the two major faculties and the Students' Union and the other Campus Organizations. The increased Arts and Science enrolment and the energetic leadership of the Arts and Science Club Presidents, resulted in an outstanding Arts and Science Club contribution to Campus Activities. Student groups sponsored a full program of social and other extra-curricular Activities which received generous Faculty support.

The Calgary Students' Council were guests of the Edmonton Council in the Fall, and during the winter the Edmonton Council returned the visit. Both groups felt that these visits contributed a great deal toward mutual understanding and to the solution of common problems. Representatives from Calgary attended both the Fall and Spring meetings of the Committee on Student Affairs in Edmonton.

The Handbook and Constitution of the Students' Union at Calgary was completely revised this year.

There were no disciplinary problems involving University students during 1955-56.

(h) *Medical Services:*

The Medical Services were under the direction of Miss M. O. Cogswell, R.N., under a *pro tem* Committee consisting of:

Chairman: Miss M. O. Cogswell

Ex-Officio Members: Dr. Doucette, Dr. Graham

Faculty of Education representative: Mr. L. Goodwin

Faculty of Arts and Science representative: Dr. E. Guy

All examinations and follow-up referrals were handled at the Calgary Associate Clinic. The services rendered under this plan were very satisfactory, and the Director recommends a continuance of the plan.

(i) *Evening Division Classes—non-credit:*

The following courses were given:

"Principles of Gardening", Alex Munro

"Conversational French", Mrs. F. Graham

"Law for the Layman", M. H. Patterson

D. C. Prowse

A. M. Harradence

"A Background to Current Events", Ernest Watkins

(j) *Evening Division Classes—for credit:*

The following courses were given:

Accounting 1

Education 376

Economics 1.

Report of Dr. John W. Gilles, Director of the Summer Session

1. Registration and Attendance

The advance registration for the University of Alberta Summer Session reached a total of 2089, an increase of fifty over that of 1954. A total of 415 students failed to attend so that the actual registration amounted to 1674, an increase of sixty-eight over that of the preceding year. To this number must be added another 160 students who were registered in the Emergency Teacher Training Program. Thus the total number of students in actual attendance in the 1955 Summer Session was 1,834. A summary of the attendance figures follows.

Summary of Attendance

<i>Faculty or School</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Education	557	867	1424
Arts and Science	61	36	97
Graduate Studies	86	25	111
Commerce	1	.....	1
Household Economics .....	.....	3	3
Nursing .....	.....	5	5
Pharmacy	5	.....	5
Agriculture	3	.....	3
Specials	12	11	23
Auditors	2	.....	2
	727	947	1674

Emergency Teacher Training Program

First Session students	89	
Second Session Students	71	
	160	160
		1834

Of the students who attended the regular Summer Session, approximately 85% were registered in the Faculty of Education, and about 6% in each of the Faculty of Arts and Science and the School of Graduate Studies. It is gratifying to note that the registration in the School of Graduate Studies increased sharply over that of last year, 111 as compared to seventy-eight, an increase of almost 42%. There was also a noticeable increase in the number of students registered in the Faculty of Arts and Science, ninety-seven this year as compared with seventy-three in 1954.

During the three-year period, 1952 to 1954, registrations in the regular Summer Session dropped slowly but steadily from 1700 in 1951 to 1608 in 1954. The registration figures for 1955 suggest that this downward trend has now been reversed. This is especially significant in view of the fact that in the spring of 1954, the Department of Education made it possible for elementary teachers to secure permanent certification after one year of training, whereas prior to that time two years had been required.

With respect to the Emergency Teacher Training Program, two points of interest may be noted. Of approximately 129 students who were graduated in the summer of 1954 from the First Session of the Emergency Teacher Training Program, only seventy-one returned in 1955 for further training. This summer there were only eighty-nine students registered in the First Session of the program as compared with 132 last year.

2. Instructors

The Summer Session teaching staff, including that of the Emergency Teacher Training Program, comprised a total of ninety-nine instructors, six more than in 1954. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time members of University staff		57
Instructors from Affiliated Institutions		1
Visiting Instructors from Alberta:		
Department of Education	4	
School Systems	11	
Others	2	
		17
From Other Provinces		12
From U.S.A.		11
From New Zealand		1
		41

Visiting instructors from outside the Province included the following:

Dr. Willard J. Brandt	Wisconsin State College, Milwaukee
Dr. Thomas C. Burgess	Oregon State College, Corvallis
Mr. Lawrence R. Cluderay	Vancouver, B.C.
Miss Kathleen Collins	South Burnaby Schools, B.C.
Dr. William R. Crooks	Oregon State College, Corvallis
Mr. Geoffrey O. B. Davies	University of British Columbia
Dr. Peter F. Dembowski	University of British Columbia
Dr. A. Fred Deverell	University of Saskatchewan
Miss Catherine U. Eichelberger	Cornell University
Mrs. Elizabeth H. Feniak	University of Manitoba
Mr. John C. Garrett	Canterbury University College, N.Z.
Dr. Lucille F. Hill	Portland Public Schools
Mr. C. H. Howatson	Victoria College, B.C.
Miss Isabel M. Laird	Queen's University
Miss Elizabeth Magee	Acadia University, N.S.
Dr. Wallace Matson	University of Washington
Mr. Stanley R. Mealing	Carleton College, Ottawa
Dr. John E. Owen	Florida Southern College, Lakeland
Mr. James C. Reaney	University of Manitoba
Dr. Peter D. Scott	McGill University
Miss Dorothy A. Stoflet	Columbia University
Dr. Stuart R. Tompkins	University of Oklahoma, Norman
Dr. Robert R. Wark	Yale University
Miss Juanita Wolff	Portland Public Schools

No serious adverse criticisms were received about the work of any of the visiting instructors. On the other hand, excellent reports were received about several of them.

3. Courses

Originally it was planned to offer ninety-three courses in the 1955 Summer Session, eighty-five for students in the regular session, and eight for those in the Emergency Teacher Training Program. Eventually four courses in the regular Summer Session had to be withdrawn because of very low registrations. Of the eighty-nine courses which were actually offered, eighty-two were full courses and seven were half courses, all but one of the latter occurring in the Emergency Teacher Training Program. Thirty of the courses offered had laboratory requirements which varied from five to fifteen hours per week. Industrial Arts courses and the course in Office Practice were taught at Victoria Composite High School by members of the staff of the Edmonton Public Schools. No Summer Session courses were offered in Calgary.

4. Size of Summer Session Classes

A definite attempt was made this year to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected here fell into two classes: Those where specialized equipment needed for teaching was available in limited quantities; and courses in the fields of History, English, and Elementary Education. Generous quotas plus a more generous provision of courses in these areas than in previous years, provided assurance that students' needs were adequately met. In the cases of certain

popular courses, especially where these were required courses in certain degree programs, multiple sections were provided.

The following table shows the distribution of Summer Session classes according to size.

Distribution of Classes According to Size

10 students or less	7
11 to 40 students	57
41 to 60 students	30
61 to 80 students	10
81 to 100 students	3
TOTAL	107

It will be noticed that sixty-four classes enrolled fewer than forty students each. There were ten classes which drew from sixty-one to eighty students each. The nature of these courses was such that in none of these was serious hardship imposed on either the students or the instructor. This leaves only three classes in which the registrations exceed eighty. These were actually the three sections of a single course, Education 376—Educational Psychology, which drew a total registration of approximately 250 students. The registration in each section barely exceeded eighty. The three instructors concerned handled the course without difficulty, and did not even request the assistance of readers.

The above table suggests, but does not show too clearly, that a fairly large number of Summer Session classes are relatively small. In seven classes ten or fewer than ten students were enrolled. This is a sharp reduction from the number of such classes in 1954. All told, there were fifty-one classes, or nearly 50% of the total, in which there were fewer than thirty students. It would seem that, insofar as class loads are concerned, the Summer Session is succeeding in establishing satisfactory teaching conditions.

Experience seems to show that with the present scales of instructional fees and instructors' honoraria, the Summer Session can meet its direct costs on an average class load of thirty students per instructor. In the 1955 Summer Session the average class load was thirty-three students as against thirty-five in 1954.

5. Special Events Program

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of two musical programs and an illustrated lecture. The Williams String Quartet opened the series with a very fine recital of chamber music. The illustrated lecture was given by Mr. Charles J. Everest of Calgary, a guest instructor, whose topic was "The Deep South". The other musical program was the Choral Recital, presented by the combined music classes of the Summer Session under the direction of Mrs. G. C. Higgin and Mr. Lawrence Cluderay. Miss Lois Callaway, a Summer Session student, appeared on this program as solo pianist. Attendance at the lecture and at the choral recital was very good; that at the Chamber Music Recital could have been better.

The Rutherford Library sponsored a series of five weekly recorded programs of music and plays which were presented in the Music Listening Room.

During the course of the Summer Session, students had an opportunity to attend three one-act plays produced by members of the drama classes under the general direction of their instructors, Mr. Robert Orchard and Mr. Gordon Peacock.

A Service of Worship was held in Convocation Hall on July 24th, with the Reverend E. J. Thompson, Principal of St. Stephen's College, as Minister in charge. A sufficiently large number of students attended the Service to warrant its continuance.

6. Routine of the Summer Session

The "Get-Acquainted" Tea for the staff of the Summer Session and their wives again took the form of a delightful garden party given by President and Mrs Stewart. The staff meeting held on the evening of the second day of lectures was very well attended and served a useful purpose. A weekly memorandum was sent to all instructors and administrative officers to keep them informed of Summer Session activities and procedures. Towards the end of the Session, instructors were asked to make suggestions for the improvement of future Summer Session. Very few reports were received. Significant suggestions contained in them have been forwarded to the appropriate University authorities.

The revision of registration procedures for the first day of the Session, which saw Convocation Hall brought into use, was definitely a move in the right direction. Students were able to complete their registrations with a minimum of delay and confusion.

The following officials whose duties brought them into immediate contact with Summer Session students were on duty during the Session.

Dean of Women and Warden of Pembina Hall	Miss M. Simpson
Warden of Athabasca Hall	Miss Margaret Lien
Warden of Assiniboia Hall	Mr. Earl Buxton

Brief reports were received from these officers. Copies of these reports are on file in the offices of the Director of the Summer Session and the President.

The Edmonton Journal was again very generous with space this summer and gave the Summer Session excellent publicity.

7. Student Affairs

The general meeting of the Students' Union, called at 3:00 p.m. on July 7th, drew a total attendance of about only twenty-five students. Although about 800 students were in classrooms or laboratories at the time of the meeting, the attendance was very little lower than what it had been in the immediately preceding years when there were no 3:00 p.m. classes. It is regrettable that there is so little interest in student affairs.

The Students' Council made one innovation this year when they appointed a part-time Director of Recreation, in the person of Mr. A. W. Eriksson. The Director worked closely with the members of the Students' Council who were responsible for men's and women's athletics and was also instrumental in improving very considerably the organization and administration of these activities. The appointment of a Director of Recreation did not seem to introduce any changes in the overall recreational patterns of students attending Summer Session. The Students' Council, at its last meeting, decided to

continue at its own expense for at least another session its experiment with the Director of Recreation. It hopes that by that time it will be able to assess more adequately the desirability of continuing with such an appointment.

No resolutions directed to the University were passed either at the Students' Union general meeting or by the Students' Council.

8. Concomitant Activities

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Civil Defence Courses

Sponsored by the Provincial Civil Defence Organization, these courses were given between the hours of 3:00 and 5:00 p.m. For the first time since these courses were first given on the campus, there were regular Summer Session courses scheduled for 3:00 p.m. This situation probably has some effect in causing a reduction in the number of students who took the Civil Defence course. Approximately sixty teachers completed these courses this summer, as compared with 120 in 1954.

Tuberculin Skin Testing Program

Approximately 700 Summer Session students were given the Tuberculin Skin Test in a testing program organized by Dr. G. R. Davison, Director of the Division of Tuberculosis Control, Department of Health. Those who reacted positively to the test, were later given an X-ray examination.

Report of Professor Osman J. Walker, Director of the School of Graduate Studies

It has been necessary for the School of Graduate Studies to hold six regular meetings, each of two or three hours in length, to transact the business that needed to come to its attention. Many of the members of Council also spent additional time as members of Committees appointed to deal with special matters and to bring their recommendations to Council. Special mention should be made of the fine work done by the Revisions Committee that has spent many hours in reviewing the marks of Graduate Students prior to each of the two Convocations as well as bringing forward recommendations for Graduate awards.

During the year some alterations have been made in the regulations of the School which should make them free from certain ambiguities that have appeared in their interpretation. The greatest change has been in the admission requirements for the Ph.D. degree which now will allow a candidate with a bachelor's degree from the University of Alberta to be admitted if he also holds a Master's degree, or its equivalent, from another University. Some discussion has also taken place on the "proposed program of Graduate studies in Educational Administration and Supervision in the Faculty of Education." The Council has shown much interest in the part of the program concerned with the training of candidates for the Master's and Doctor's degrees.

Registration

The registration in the School this year is 36 greater than in 1954-55. The changes are as follows: increases of 10 M.A.'s, 26 M.Ed's and 4 M.Sc.'s; decreases of one Ph.D. and 3 Special Graduate Students. Changes in the

classification of students passed by General Faculty Council will undoubtedly reduce students in this latter category to one half its present value as the School will have in it only the graduates, "Provisional Graduate Students" who are qualifying for admission to advanced degree programs while other graduates not working for degrees will be included as "Special Students" in the Faculty or School where they are taking their courses.

The total registration for the academic year amounted to 367 made up of 131 in the Summer Session and 236 in the regular Session. After allowing for 42 registered in both Sessions, the net registration is 325. Of the students in the regular Session, 23 were women—less than 10% of the total. The distribution of students according to Session and degrees sought was as follows:

	Regular Session	Summer Session	Total	Duplicates	Total less Duplicates	%
Master of Arts	42	12	54	6	48	18.6
Master of Education	62	93	155	27	128	49.6
Master of Science	68	3	71	1	70	27.1
Doctor of Philosophy ...	12	1	13	1	12	4.7
Working for degrees	184	109	293	35	258	
Special Students	52	22	74	7	67	
Total	236	131	367	42	325	

It will be noted that 93 of the 131 graduate students in the Summer Session were working for the M.Ed. degree. During the regular Session candidates were proceeding to advanced degrees in twenty-seven departments or divisions as follows:

Animal Science	5	Mathematics	2
Bacteriology	3	Medicine and Clinical Medicine	1
Biochemistry	3	Modern Languages	2
Chemical Engineering	6	Pharmacy	2
Chemistry	9	Philosophy and Psychology	14
Civil Engineering	7	Physics	5
Dairying	1	Physiology	2
Educational Psychology	13	Plant Science	14
Electrical Engineering	2	Political Economy	7
Elementary Education	7	Secondary Education	43
English	10	Soil Science	4
Entomology	1	Surgery	1
Geology	9	Zoology	1
History	10		

It is of interest to note that the 12 candidates for the Ph.D. degree are distributed thus.

Animal Science	2	Physics	1
Biochemistry	1	Plant Science	6
Philosophy and Psychology	1	Secondary Education	1

Recommendations for Degrees

The Degrees awarded at the November 1955 and May 1956 Convocations were 51 made up of

		%
M.A.	7	13.5
M.Ed.	12	23.1
M.Sc.	32	61.5
Ph.D.	1	1.9
Total	52	

If one compares registration with the granting of degrees it will be noted that M.Ed. candidates represented 49.6% of the total registration for degrees but only 23.1% of degrees awarded, while M.Sc. candidates were 27.1% of the registration and received 61.5% of the degrees. This anomaly is due to the fact that many M.Ed. candidates are working for their degrees by Summer Session attendance and extramural courses so their registrations carry over for four or five years, as a rule, while the M.Sc. candidates are usually full-time students and complete their program in one or two calendar years.

Scholarships and Fellowships

These were awarded in fields which included Chemistry, Chemical and Petroleum Engineering, Education, Geology, Physics, Plant Science and Psychology. There were no applicants for two of the scholarships offered.

Report of Mr. B. B. Peel, Acting University Librarian

Introduction

In the year under review the big event in the Library was the resignation of the chief librarian, Miss Marjorie Sherlock (now Mrs. Hugh Grayson-Smith) in August. Mrs. Grayson-Smith, when she came to the library in 1945, brought to her position imagination and initiative. These qualities she exercised in the planning of the Rutherford Library, one of the finest library plants in the country. During her administration the rapid increase in the book collection now centralized in the new functional building, and the growth in the size and efficiency of the staff, brought the University of Alberta Library to the forefront in university library development in Canada in the post war period. Mrs. Grayson-Smith's retirement has been a loss to the library profession.

Accommodation

During the summer of 1955 both the Education Library and the Calgary Branch took over additional space in the buildings in which they are housed. The Education Library, which had previously occupied two floors, now has rooms on three. Two rooms directly below the Main Reading Room, Room 218, were converted into a stack area. The stacks were moved from 218 thus making more reading and working space available in the Main Reading Room. In the Reserve Reading Room above, a wall was knocked out and a small room behind it converted into a desk and stack area. By these alterations the Education Library doubled its reading room space. The Calgary Branch expanded into another wing, thus adding 35 feet to the length of the reading room.

In the Rutherford Library three seminar rooms were taken over temporarily

as offices for teaching staff because of the shortage of office space on the campus.

Use of the Library

The year has marked a levelling off in the circulation statistics for the first time in several years. In the Rutherford Library circulation of books remained the same as last year, while the Education Library reported a sharp decline and the Calgary Branch reported an increase of 15%. The total circulation of all three libraries was 196,782 volumes, or a decrease of 3%.

The attendance for the three libraries was 460,286, an increase of 48,000 or 12% over last year. The increased number of students studying in the library is noticeable, for during the rush hours the reading rooms have a well-filled appearance.

A feature of the service this year has been the increased use of the main stacks by the students enrolled in Arts and Science. The number of stack permits issued to senior and honours students has nearly doubled, while the statistics indicate that there were 22,531 stack entries as compared with 14,716 last year. Access to the stacks has influenced the circulation figures in that permit holders use many of their books in the stack area without borrowing them for home use.

The Library again provided books for Evening Classes offered in Lethbridge, Medicine Hat, Red Deer, and Vegreville. A collection of books for each course was sent to the four centres where the public libraries co-operated with the University by supervising and circulating the books.

Reclassification

The reclassification of the main book collection in the Rutherford Library to the Library of Congress Scheme has proceeded smoothly. During the year books in the subject fields of music, art, pure and applied sciences, crime, education, political science, and international relations were completed. The books remaining are concentrated on Tier 5, and in the Reference Reading Room. The coming year will see the completion of the reclassification program.

Miscellaneous Services and Activities

The Photostatting Service processed some seventy separate orders originating from a variety of customers both on and off the campus, including the medical profession and the Research Council. The largest order was from a library for the reproduction of Captain John Palliser's famous report which is unobtainable in the secondhand book market. Although customers sometimes think our rates are high, the substantial deficit sustained by the services indicates that we are not charging enough to cover our costs. The service has been under the supervision of Mr. Noden who has ironed out some of the operational problems in photostatting pages from bound volumes, thus improving the quality of the prints.

As in other years the Library offered noon-hour concerts in the Music Listening Room. These have been well patronized by the students. However, the Thursday evening programs have too much competition from other campus activities to attract listeners in any number. A high fidelity, co-axial speaker in a handsome cabinet, the gift of the graduating class of 1955, was installed during the year.

A number of interesting displays were placed on exhibition in the cases in the rotunda. Probably the most colorful of these was the February display which featured material provided by some of the foreign students enrolled at the university. The British Council's travelling exhibits of books, British Book Design 1955 and British Medical Books, were shown in the Rutherford Library this spring.

In June 1955, two librarians visited the Rutherford Library to study our organization and routines. Miss Katherine Ball, Professor of Cataloguing at the University of Toronto Library School, spent two weeks in the Cataloguing Department. Mr. Robert Rogers, now Librarian of the University of New Brunswick, visited the Library for a week studying departmental organization.

Staff

During most of the year the Library had a full-time staff of 34, of whom 14 were qualified librarians. In addition, a professional cataloguer and a typist are employed for the reclassification project. In April of last year two clericals were added to the permanent staff, one for the Order Department, and the other to work in the Reference and Circulation Departments, half-time in each.

As noted above, the Library lost its administrator, Miss Sherlock, at the end of August. Since then the task of the acting librarian has been made easy by the efficiency with which departmental heads have run their departments, and the co-operation which they and the junior staff have given in all matters.

In May Miss Dorothy Ryder, Circulation Assistant, resigned to take another post; we were unable to fill her position during the year. Mrs. Melba Wilson and Miss Bonney White resigned during the summer, and were replaced by Miss Louise Range and Miss Leona Thompson respectively. Among the non-professional staff there have been the usual number of resignations and replacements. In the Calgary Branch the lengthy illness of Miss Irene Burnett placed an undue strain on Miss Grant, the Librarian, during the busy winter term.

Library Committee and Library Sub-Committee

The Library Sub-Committee met four times during the year and the Library Committee once. A survey of the teaching departments and their book needs made during 1954-55 was used as the basis for a revision of departmental appropriations. A formula for the apportionment of book funds was applied to the information collected to work out the new appropriations. The result was studied and approved by the Sub-Committee, and later by the main Committee. The new appropriations are a much fairer division of the book fund.

The Acting Librarian gratefully acknowledges the assistance received from the Committee and the Sub-Committee. In particular he wishes to thank two members of the Sub-Committee, Dr. Thornton, chairman, and Dr. Johns, for advice and assistance with administrative problems.

Order Department

The Order Department is responsible for the ordering of all books, supplies and equipment for the entire Library system. Last April in a reorganization, the ordering of current periodicals, and the recording of issues as they arrived were transferred to this department from the Reference Department. An

additional clerical was added to the department to handle these. Orders were sent out, mainly in October, for 1162 periodical subscriptions.

During the year the department ordered 7,536 volumes, an increase over last year. An additional 440 volumes were received as gifts. The department set up a routine for searching for missing issues of periodicals and succeeded in securing 171 issues needed to complete sets. The Library Sub-Committee approved the purchase of fifteen runs of periodicals, and these were ordered.

Heavy purchases were made from the Col. J. H. Woods Trust Fund last spring and again this spring. This collection of books on American-Canadian relations is one of which the University can be proud. If the titles now on order are secured, the fund will be exhausted.

Cataloguing Department

Unlike other years, this year the Cataloguing Department has had no changes in staff. Less part-time help from student assistants was needed because of the greater efficiency of the staff, and also because of a decrease in the number of books processed.

The Department processed 4,362 new titles. While this was 552 fewer titles than last year, they totalled 128 more volumes than in 1954-55. The number of titles reclassified was 9,159, a decline of 2,469 titles in reclassification. In the reclassification program the experience of the Department has been that books in some subject fields take more time to classify than books in other fields; thus the books in the literature section done last year could be put through faster than the books in the sciences on which the department was engaged much of the year just past.

This year's work included 9,556 volumes accessioned, 9,618 new volumes catalogued, 13,573 volumes reclassified, 22,062 books lettered, and 72,108 cards typed. Other materials catalogued consisted of 26 phonograph records and 6 filmstrips.

Reference Department, Periodicals and Binding

This department in addition to its strictly reference function is responsible for the interlibrary loan service, and the supervision of the Periodical Reading Room, the Rare Book Room, the Microfilm Reading Room, and the map and document collections. In addition, it is responsible for the binding of books and periodicals for the whole Library.

The statistics show an increase in all areas of service. Attendance in the Reference Reading Room was 123,734 as compared with 114,223 last year. The circulation was 7,689, while the number of reference questions answered was 3,351. In the Periodical Reading Room the attendance was 12,138, an increase of 10%. The circulation of journals was 20,503, an increase of 14%. The staff has prepared a subject index of the periodicals shelved in the Periodical Room, and this has proved a useful guide to students and teaching staff.

The Library has continued to build up its document and map collections. During the year 9,264 documents were received and processed. Fewer maps were added than last year, only 311; the collection now totals 5200 sectional maps. An additional 55 theses were added to the collection of theses, 30 at the Spring Convocation and 25 in the Fall. A total of 666 pamphlets were added to the pamphlet file.

The Interlibrary loan service sent out 72 volumes to other institutions, borrowed 91 volumes, and purchased 97 films for the use of staff and students of this university.

A total of 2,407 periodicals and books were bound during 1955-56. This year the Library enlisted the services of an additional bindery, and thus was able to break the backlog of binding.

General Circulation Department

This department consists of the Reserve Reading Room, the Main Delivery Desk, the stacks, and the Browsing Area. This year the administrative burden carried by Miss Freifield, Circulation Librarian, was particularly heavy as she was without a professional librarian to assist her after Miss Dorothy Ryder's resignation. As the Library did not succeed in finding a trained librarian as a replacement, an extra non-professional graduate was hired, but Miss Freifield had to supervise many of the technical details which would normally fall to her assistant. The addition of a half-time clerical (shared with Reference) eased the strain of a heavy circulation and of staffing the Circulation Desk and the Reserve Room for 13½ hours per day.

The circulation from the Reserve Room was 38,502, and from the Main Delivery Desk and Browsing Area 37,167. Attendance in the Reserve Room was up 19%, in the Browsing Area by 11%, and in the stacks 53%.

This year the increased use made of the stacks has made it necessary for the staff to give more time to the admittance and supervision of student stack users. The Circulation Department found it necessary to send out more recall notices for overdue books than heretofore. The Department reports that as reclassification nears completion the inconvenience to stack users is becoming less.

Report of the Branch Libraries

Applied Science Reading Room

This reading room, which serves the Faculties of Agriculture and Engineering, and the Department of Chemistry, continues to be heavily used. The attendance was 49,044, an increase of 3,767 over last year. The circulation figure of 9,792 for books and journals does not give a complete picture of the use made of the reading room since this figure is for overnight loans, not the use made of books in the room. The reading room staff answered 1901 reference questions.

The Applied Science Reading Room has been rapidly building up its basic collection of books and journals on engineering and the petroleum industry. The problem of stack space has now become acute, but the construction of an additional tier above the desk area is under discussion, and this would alleviate the space problem.

Law Library

The attendance in this reading room was 35,961, a slight increase over the previous year. The circulation of over-night loans was 4,758. Since the students have free access to all the books in the room and the adjoining stack, the circulation figure represents only a small part of the reading done by the law students. The number of reference questions answered by the Law Librarian was up by 17%.

In the interest of building up the legal collection, five legal periodicals and a similar number of loose-leaf services were added to the subscription list during 1955-56. These were in addition to the usual acquisitions.

Medical Reading Room

This reading room serves the Faculties of Medicine, Dentistry and Pharmacy, and the Schools of Nursing and Physiotherapy. The attendance for the year was 30,594, an increase of 11%. This increase in attendance is most noticeable in the use made of the reading room during the evening. Circulation for home use was 18,141, as compared with 17,284 last year.

Medical practitioners in Edmonton and throughout the province were lent 4,830 books and journals. Most of these titles were borrowed by doctors in the city of Edmonton. The service to rural doctors was replaced by the photostatting service. The Medical Librarian estimated that the amount of time spent during the year in getting books and answering reference questions for medical practitioners to be equivalent to more than six full working days.

Education Library

As indicated earlier in this report, the Education Library expanded into additional space last summer so that it is now housed on three floors of the Education Building. A booklift was installed to connect the three floors. The seating for readers was increased from 75 to 154.

The attendance figure for the year was 29,729, while the circulation figure was 39,096. The circulation was lower than last year, due at least in part to the fact that for the first time senior and graduate students had access to the stack area, and used books there instead of taking them out for home use.

The Library was again open two evenings per week during the winter session for the benefit of students enrolled in evening classes. In May the Canadian Education Association-Kellogg Foundation's annual workshop was held. The Library supplied books for the project but was not able to give the service given in other years because the library was being remodelled.

Calgary Branch

In the summer of 1955 a new wing 35 feet in length was added to the reading room of the Calgary Branch. Some new steel shelving was installed and some additional catalogue filing cases added. Scheduled for installation during the summer of 1956 are an acoustic ceiling, and new lighting for the stack area.

The Library immediately put the extra reading space to good use, for the attendance figure this past term was 50,186 as compared with 40,042 in 1954-55, an increase of 25%. The circulation figure was 20,144, an increase of 15%.

Miss Grant, the Calgary Librarian, operated the library under difficulties during the year as her assistant, Miss Irene Burnett, was on sick leave for three months, December through February. During this period two untrained persons in succession, substituted, but neither had time to become thoroughly familiar with the routines. Miss Grant is to be commended for maintaining the same level of service in spite of staff shortages.

Professional Activities

Members of the Library staff have actively participated in their professional organizations, national and provincial. At the 10th Canadian Library

Association Conference Miss Norma Freifield, Miss Caroline Hicks, and Mr. Peel took part in a panel on cataloguing. Miss Freifield was Chairman of the Proceedings Committee for the Conference. Miss Hicks is currently Chairman of the Cataloguing Section of the Canadian Library Association. Miss Lilian Leversedge was for part of the year Assistant Editor of the Alberta Library Association Bulletin.

Report of the Provost, Professor A. A. Ryan

General

The tradition of student responsibility and self-government was well maintained on the campus this year, thanks in a large measure to the able leadership of student officials under Mr. John Bracco, president of the Students' Union. Mr. Bracco was himself awarded the *Mothersill Memorial Scholarship* for his outstanding contribution to student life in the University.

Student Government

During the year the Students' Council has concentrated upon improving the effectiveness of its operation of the machinery for student government which has been built up in recent years.

A closer relationship in matters of scheduling and discipline is being established between the Council of the Students' Union and the Executives of the various Faculty and School Clubs. For example, when it was agreed by Students' Council that the time had come to bring into line those few organizations whose campus social functions were loose in their enforcement of the University ban on liquor, they received full cooperation. The result has been the best policed and best conducted social year since the war.

A serious effort is also being made by the Scheduling Committee of the Students' Union to keep in better touch with the multifarious activities sponsored not only by the Union and its campus-wide clubs, but by the Faculty, School, Departmental, Religious and other Clubs which operate independently of it. It is hoped by this means to overcome some of the difficulties caused by lack of continuity from year to year.

Student Activities

The number and variety of student extra-curricular activities have undergone no major changes during the year. The success of some ventures, such as the Mixed Chorus, the Interfraternity Song Fest, and the Engineers' Ball, for example, is now taken as a matter of course. A few departures from the usual might be instanced, however.

Perhaps the highlight of the year's activities was the 19th Conference of the National Federation of Canadian University Students to which this University offered hospitality in October, 1955. The event was remarkable for the energy and organization ability displayed by Mr. Douglas Fitch and those who aided him with arrangements, and for the degree to which the students, the administration, the city and the province cooperated in ensuring its success.

A highlight of the second term was the "Mock" or "Model" Parliament sponsored by the revived Political Science Club under Mr. Claus Wirsig. Plans have been laid for a political awareness week next year.

The student newspaper, the "Gateway", also enjoyed a successful year under an arrangement whereby the Editors-in-Chief changed over in mid-

session. The "Gateway" has at times threatened to become the voice of the small group operating it; this year the editors held to a policy of trying to speak in a constructive way for the student body as a whole. The "Gateway" also revived the campus literary magazine "Stet" which had failed to maintain an independent existence.

Most successful of the major athletic teams was the Golden Bears Hockey Team which maintained its leadership in western intercollegiate hockey by winning the Hamber and Hardy trophies. The growing interest in cross-country running was climaxed in the fall by the clean sweep registered by Alberta runners against Saskatchewan. During the winter the underdog ski team made a remarkable showing against strong opposition from American colleges at the Banff Ski Meet. Intramural sports involving the largest numbers of students as participators were basketball and curling.

Public Relations

Student effort in the field of organized public relations continues at a commendable level. The three major activities were the seventh Annual Civic Banquet, the eighth Annual Parliamentary Dinner, and the fifth Annual Varsity Guest Week-End. Guest Week-End, in particular, proved successful beyond expectations. A fourth event, the more recently instituted Varsity Football Night in cooperation with the Edmonton Eskimos Football Club, has proved more difficult to handle because of scheduling and other conflicts beyond the control of the Student Public Relations Officer, and may be discontinued. A totally new event in the form of a reception for first year students sponsored at the Edmonton Gardens during Freshman Introduction Week by the City of Edmonton, was enthusiastically received. It is hoped that it will become an annual event.

Residences

Life in the student residences has undergone a transformation in the past three years because of the almost complete yearly change-over made necessary by the large numbers of freshmen applications. Although at the end of the year ninety percent of the residents apply to return, only a fraction can be readmitted to ensure some measure of continuity. In such circumstances, the assistance of the House Committees in guiding student residence life has proved even more valuable than in the past.

Students' Union Building Program

With the possibility imminent that the University Drill Hall may be condemned as unsafe, the question of adequate facilities for athletic and social functions on the campus has become pressing. Students' Council has offered a substantial financial contribution towards a projected "recreational building" adjacent to the Students' Union Building, and has created the office of Building Director to give continuity to their support of the plan.

Discipline

It is a pleasure to be able to report once more the absence of serious disciplinary problems on the campus. Not only have student executive groups on campus welcomed the request that they exercise full control over events which they sponsor, but the Interfraternity Councils have been cooperative in supervising the activities of the fraternities.

Report of the Dean of Women, Miss Maimie S. Simpson

Interviews

During the term students often request opportunities to discuss the courses they are presently taking especially following the results of term tests; and towards the end of the year to discuss the courses to be taken the next year.

Now and then high school students request appointments to discuss the offerings of the different faculties, or to get some information on the subjects to be taken in a faculty already chosen.

There were, during the year, one or two more serious emotional cases in which cooperation was given to the Infirmary staff and to Student Advisory Services.

Babysitting with greater frequency than previously, student assistantship in the Library and work in exchange for room and board in private homes gave a considerable number of students the financial assistance they required.

Extracurricular Activities

With the increase in student enrolment the number of dances, both formal and informal, is increasing. A considerable number of these dances were attended upon invitation from the students.

The Coffee Hour for first-year girls, twenty or so at a time, still seems to be the best way for the girls to get to know the Dean of Women. This year these short visits were more appreciated than at any time in the past. It is hoped that arrangements may be made to get a list of those girls who attend in Calgary during their first year or even, their first two years so that invitations may be sent to them also.

A number of student executives were entertained when plans for social functions were being discussed e.g. Education Undergraduate Society, Macleod Club, Graduation Committee etc.

Women graduands in Honors in the Faculty of Arts and Science, in Medicine, Dentistry, and Pharmacy were entertained at tea.

Special attention was given to the Wauneita Society whose members are so often campus hostesses. To Miss Ruth Geddes, the President, and to her executive we are grateful for a most successful year.

Upon the request of the fraternity women the monthly meetings of the Panhellenic Society were attended, in, as usual, an advisory capacity.

The University Mixed Chorus was accompanied on its out-of-town three-concert series to Tofield, Wetaskiwin and Camrose. Mrs. Harry Scargill will chaperone the group on its tour of Southern Alberta and the Okanagan Valley from April 30th to May 12th.

The Infirmary

Students confined to the infirmary or the University Hospital were visited.

Dr. Vant's Lectures

Dr. Ross Vant's three-lecture series to the First-year Women was, once again, appreciated very much.

Public Relations

Three broadcasts over CKUA, one television interview over CFRN, and nineteen addresses to overtown organizations including the Museum of Arts,

the Jewish Women, Kiwanis Women, and a number of Church Groups were given during the 1955-56 term.

Report of Dr. A. J. Cook, Director of Student Advisory Services

Maintenance of Services

The operation of Advisory Services involves recurring annual procedures which have to be maintained. These are all a part of the fundamental task of the department, which is a counselling service for the student, whether prospective, undergraduate or graduate. During the year, there were over 1300 individual interviews. Some students were of course seen more than once.

Probation Procedure

The January probation lists from the various faculties and schools offering freshman instruction were dealt with somewhat differently this year. Students in academic difficulty, who were above average in ability according to our records, were interviewed in groups, and then followed through individually as seemed desirable. This plan saved a great deal of time and gave the students a chance to discuss their difficulties with people in the same course as themselves.

We also tried to check in detail students with low ability, re-testing as necessary, with a view to helping such students face alternative means of training or employment the more realistically, should they continue to be swamped by university studies. The students of average ability seemed to come in voluntarily, so that a good overall coverage of students on probation was obtained.

Transition from High School to University

In October, notices were posted inviting students to attend one study tutorial at 1:30 p.m., with periods arranged for one week, Monday through Friday. Each student was given a questionnaire to complete, as a basis for discussion in the group. The remarkable feature of this modest experiment was that 250 freshmen came. This serves as a pretty clear indication of a felt need on the part of new students for some assistance in regard to study skills. More needs to be done to help the new students make a less difficult transition from school to university ways of thinking. The School of Nursing continues to take advantage of Advisory Services for this purpose, and periods of instruction, given this year by both Mr. Hough and Mrs. Aldridge, were devoted to fundamentals of mental skill and development. It is hoped that schools and faculties concerned with new students will give increasing attention to these matters.

Financial Aid for Students

The Director served as acting-Chairman of the University Committee which administers the Student Assistance Act for undergraduate students. This was to relieve Dean W. H. Johns, who served as Vice-President during the past session. This experience was useful, particularly as the Director was made a member of a special committee set up at the request of the University Senate to study all forms of financial assistance to students. The report of the Committee will be considered by the Board of Governors and the General Faculty Council.

An additional appointment was made to the Department, with Mr. A. J. B. Hough joining the staff on September 1st, 1955. Assistant Professor Lolita Wilson was granted leave of absence for a year, and has been doing advanced study at the University of Minnesota. Mrs. Rita Aldridge has acted capably as a sessional counsellor during Miss Wilson's absence. Dr. J. G. Woodsworth continues to act as Counsellor at the Calgary Branch.

The Director attended meetings of the Western Personnel Institute and the Western College Association held in San Francisco in November, 1955.

Report of Dr. J. F. Elliott, Director of Student Medical Services

The Student Medical Services have had an active year. Members of the freshman class for 1955-56 were given complete physical examinations. The Infirmary has provided out-patient service, and in-patient care for sick students who did not require hospital facilities.

Dr. J. W. Scott has retired as director but has agreed to remain on the Committee where his experience and advice contribute much.

Dr. Adam Little has joined the Infirmary Medical Staff and he and Dr. Cantor have had the assistance of a rotating senior interne from the University Hospital.

Miss Revell and the members of her nursing staff have carried on their duties in their usual efficient manner.

The present infirmary building becomes more inadequate and unsatisfactory as the student population increases.

Dr. S. Spaner has continued to give sympathetic psychiatric help to an increasing number of students and has been assisted by Dr. G. Carson.

Dr. M. Hutton has continued to act as consultant in gynecology.

The B.C.G. program for medical students has continued and has been extended to include the School of Physiotherapy.

A close liaison with Student Advisory Services has continued.

Report of the Radio Director, Miss Margery W. MacKenzie

During the past year the University of Alberta has been broadcasting radio programs over station CKUA for a total of four hundred hours. Slightly over three-quarters of this total has consisted of programs of recorded classical music. The remaining eighty-eight hours of programming, however, has been made up of talks and discussions on a wide variety of subjects, all broadcast from the University's campus studio between October and the end of March.

One hundred and ten members of the faculty and staff of the University participated in these varied programs. Forty-five of this number took part in more than one program, and about a dozen in at least three or four. Whatever success the year's broadcasts have enjoyed can be attributed in very large measure to the generous assistance, — voluntary, time-consuming and without additional remuneration, — of these members of the faculty and staff. For certain programs, notably those in the fields of drama, art and music, they were joined by some fifty guest broadcasters from outside the University.

Ten of the fourteen program series presented were convened by members of the faculty. These comprised talks and discussions dealing with literature, science, current affairs, educational research, extension activities, music, art

and drama. The other four series, which included three music and a travel series, were arranged by members of the staff of Radio Service.

The *Music Hour*, which has been a regular program since 1927, has had, we believe, the longest continuous career of a radio program in Canada. Broadcast five times a week, it and the *Saturday Evening Concert*, now being offered for its third successive year, are presented on a year-round basis. When the University's studios close for the summer months these programs, still prepared by the Radio Service staff, are broadcast from the CKUA studios in the Alberta Block.

Following the practice of the past few years students interested in radio have been employed to operate the controls and to announce the University programs. Mr. Alan Baker has been the chief announcer, replacing Mr. Neil Smith who, after three years' training and experience on the announcing staff of Radio Service, joined the permanent staff of the Canadian Broadcasting Corporation. Mr. Raphael Engle, the President of the Student Radio Society, has served his first season as operator-announcer. Student assistants are trained and supervised in their work by the Program Producer, Mr. Alan Hood.

The very active student Radio Society presented several regular series on Thursday evenings, including *Campus Report*, *My Country*, and *Talent from the Campus*. Several plays were produced and a number of special events on the campus publicized or reviewed. Broadcasting of the student programs originated this year for the first time in the Students' Union Building where complete studio facilities are now installed.

University program series have continued to be publicized by printed program schedules, available on request. The permanent mailing list for these program guides has been noted to increase with remarkable steadiness at the rate on one listener a day during the winter season of broadcasts when talks and discussions constitute about two-fifths of the programming, and at somewhat less than half that rate during the summer months when music programs only are broadcast. About 2800 copies of each schedule are now distributed to listeners.

A certain number of programs have been rebroadcast in other parts of Alberta through the kind cooperation of several radio stations. Radio station CFAC in Calgary rebroadcast a series of five programs on elementary education and a series of four programs directed towards prospective university students and their parents. The latter series was also carried by station CFCP in Grande Prairie and station CHAT in Medicine Hat. In addition, a varied group of about fifteen programs was forwarded to Red Reer for rebroadcast over station CKRD by the local Home and School Association.

Report of Professor R. S. Eaton of the Western Board of Music in Alberta

1. Statistics (Candidates and Fees)

Candidates	February	May	June	Total	Fees	
Practical	137		1100	1237	\$1168.15	(February)
Theoretical	336	457		793	5518.00	(May, June)
				2030	6686.15	

This shows an increase of 361 candidates and an increase in fees of \$1091.40.

2. Revenue from the sale of theory papers (Dec. 1, 1954 to Nov. 30, 1955)

—\$62.63. This shows an increase of \$28.29.

3. Centres

(a) *Practical:*

February, 1955: Edmonton, Calgary, Lethbridge, Banff and Red Deer.

June, 1955: Acme, Banff, Blairmore, Bonnyville, Bowden, Calgary, *Castor*, Dawson Creek, Donnelly, Edmonton, Falher, Fort Kent, Girouxville, Glendon, Grande Prairie, Hythe, Innisfail, Lethbridge, McLennan, *Medicine Hat*, Peace River, Pincher Creek, *Ponoka*, Red Deer, Rycroft, St. Paul, Spirit River, Sundre, *Vegreville* and Wetaskiwin.

(*Italicized centres were new in 1955*)

(b) *Theoretical:*

February, 1955: 39 centres

May, 1955: 41 centres

4. Examiners for Practical Examinations

Mr. Filmer Hubble, Winnipeg; Mrs. F. J. Adaskin, Saskatoon; Mr. Leonard Leacock, Calgary; Mrs. Dorothie Langmo, Edmonton; Mr. Edgar Williams, Edmonton; Mr. Lloyd Powell, Vancouver; Mrs. E. M. Hawkin, Montreal; Mr. H. Leyton-Brown, Regina; Mrs. H. D. Sherry, Saskatoon; Mr. R. M. Pounder, Edmonton; Miss D. Stanton, Edmonton; Mr. G. K. Greene, Edmonton; Mr. A. B. Crighton, Edmonton.

5. Diplomas Granted

Fall Convocation: L.Mus.: Mary Lou Dawes, Eleanor Lillian Kerr

A.Mus.: Marsha Pearlman, Pamela Russell, Marilyn G. Smith, Henry Waack, Penny Wright

6. Broadcasting (From November, 1954 to March, 1955)

During the first part of the 1954-55 season, the same policy as in other years was followed and bi-monthly broadcasts were given by the following well-known Edmonton teachers and musicians: Doreen Stanton, pianist, who gave two recitals, Edgar Williams, violinist, and Rosemary Holsworth, pianist.

In the early part of 1955, a series of lectures illustrated by recordings on the Growth of Music was given by Professor A. B. Crighton.

7. Recitals

Through the month of November, 1955, regional recitals, at which awards were presented, were held in six centres and young visiting artists again contributed greatly to the programs. Centres in which recitals were presented were: Edmonton, Calgary, Lethbridge, Red Deer, Grande Prairie and Bonnyville. The guest artists were: Marilyn Neubauer and Gary Miller of Calgary and Marilyn Smith, Priscilla McLean, Kathleen Heuer, Mark Jablonski and Stephen Hayward of Edmonton.

8. Scholarships, Bursaries and Prizes

In 1955, awards totalling about \$5,000.00 were made to outstanding students. The Government of the Province of Alberta again contributed \$1,000.00 in the form of ten bursaries. One gold medal and thirty-five silver medals were awarded.

The Calgary Hudson's Bay Company store has discontinued its part of the \$200.00 scholarship but the Edmonton store gave its usual \$100.00. The Edmon-

ton Journal has increased its scholarship from \$100.00 to \$200.00 commencing in 1956.

NEW AWARDS

The Berwyn Women's Institute are giving a bursary of \$25.00 to be divided between two students.

The Hythe Home and School Association gave \$10.00 to be used as two prizes of \$5.00 each.

9. Pedagogy Course

A course in the principles of piano teaching was arranged by Mr. G. K. Greene, Extension Lecturer in Music, Grande Prairie for three days early last September. Fifteen teachers from points throughout the Grande Prairie district were most enthusiastic about the instruction given by Mr. Lloyd Powell of Vancouver. A repetition of this course has been requested for next year with the promise of an increased enrolment. It is hoped to arrange similar courses in other parts of the Province.

Report of Lt.-Col. D. E. Smith, Officer Commanding, University of Alberta Contingent, Canadian Officers Training Corps

During this academic year the officers of the Contingent were Lt. Col. Douglas E. Smith, Major G. W. Reed, Major A. T. Elder, Captain W. C. Wonders, and the Resident Staff Officer, Major R. C. W. Hooper, CD. The Honorary Colonel of the Contingent was Col. H. A. Dyde, OBE, MC, QC.

Capt. D. Burns was attached from the Loyal Edmonton Regiment to assist with the training.

During the summer of 1955, 63 Second Lieutenants and Officer Cadets took their practical training courses. Six members of the Contingent trained in Germany with the 1st Canadian Infantry Brigade. (Four Second Lieutenants and Officer Cadets will be training in Germany in 1956). Of those training in Canada in 1955, Officer Cadet K. A. Reardon won the Sword of Honour as the best all-round cadet at the Royal Canadian Ordnance Corps School.

The 1955-56 session showed a decrease in enrolment; 22 first year cadets were enrolled during this period. In addition 7 Officer Cadets were enrolled under the Regular Officer Training Plan and took their training with this Contingent. The actual number of Cadets taking part in the theoretical training given during the winter of 1955-56 was 22 first year, 32 second year, and 23 third year. One third year dental student was given a short-service commission and will be subsidized through his third and fourth years of dentistry.

The Contingent participated in a number of University activities such as the Varsity Night parade at the football game and the Remembrance Day service. In cooperation with the other two services, a band concert by the RCAF Tactical Command Band was presented on 7 March, 1956.

On 21 Nov., 1955 a programme was presented for the Engineering Students Society by the COTC and RCAF Squadron. This programme of talks by Senior RCAF Technical Officers and a Panel discussion presented by Senior Officers from HQ Western Command of the Army. A display of engineering and electronic equipment was presented at the conclusion of the programme.

The first year cadets received a course of lectures in the subjects "Intro-

duction to the Army" and "Current Affairs". The second year cadets were given courses in "Organization and Administration" and "Tactics". The Tactics course was conducted by means of practical problems on a landscape model, and was well received by the cadets. Subjects taken by the third year cadets included "Military History", and a short course in "Leadership and Man Management", to introduce these officers to some of the problems with which they will be confronted during their practical training this summer. A "Current Affairs" discussion period for all cadets was carried out each month.

While the lectures on the courses mentioned above were mainly given by Contingent Officers, the following members of the University Staff participated: Prof. P. S. Warren, Prof. F. D. Blackley, Prof. G. R. Davy, Prof. L. E. Gads. Two former Officer Cadets, Mr. W. R. Kelley and Mr. K. M. Stewart also assisted. Considerable use was made of films provided by HQ Western Command in conducting these courses.

A number of students who would be unable to continue their university education owing to lack of funds are being assisted by the benefits received from the Regular Officer Training Plan.

While the primary function of the Contingent is to provide well trained officers who can take their place in the Regular Army or Militia either in peace or war, the overall training programme constitutes a real contribution to the education of our students. The training and experience received in man management and leadership is valuable in any profession or in any participation of the citizen in the affairs of the community or state.

Report of W/C L. E. Gads, Commanding Officer Reserve University Squadron, RCAF

Following the completion of the 1954-55 University term last May, some 60 Pilot Officers and Flight Cadets of this Squadron were posted for duty at various RCAF stations across Canada and three of them were posted to RCAF bases overseas. S/L B. E. Riedel and F/O A. B. Weston reported to Kingston, Ont. W/C L. E. Gads travelled overseas on a liaison tour of RCAF bases before reporting for instructional duties at RMC.

The new Resident Staff Officer, F/L Ross Curry took over his duties in September 1955 and with the departure of F/O A. B. Weston from this University, P/O J. A. Agrios was appointed on the staff to assist in the administrative and instructional duties.

Eight cadets reported to U. of A. under the Regular Officer Training Plan in September 1955 and six more were accepted under this plan during the winter. Indications are that the numbers accepted under this plan may increase in the future.

Recruiting for the Reserve Squadron improved this year with 17 Cadets of the quota of 23 being accepted. There was a particularly good response from female applications and a number of good candidates were not accepted because of lack of vacancies in the particular branches.

The training programme for the Reserve University Squadron consisted of lectures and liaison visits. A good attendance and enthusiastic interest was maintained throughout the 64 hours of training. The lecture programme included speakers from the Squadron Staff, University Staff, Tactical Air Command Headquarters, Establishment Climatic Detachment at Namao. The

liaison visits included conducted tours of such establishments as the RCAF Survival Training School, the Search and Rescue Headquarters, 105 C & R Flight, and the new Supply Depot building at Namao.

The Tri-Service lounge was used extensively by the members of the three services for social and study purposes. Other events included the Remembrance Day Ceremony, participation in the Varsity Football parade, Band Concert, and the highlight social event being the Tri-Service Ball held at HMCS Nonsuch.

Ten members of the squadron will be graduating from University this year. One of these is ROTP; another is a Regular Officer completing his degree following graduation from RMC. The remainder will be transferred to 418 Sqdn. (Aux) or the Supplementary Reserve.

The Reserve Officers School for the first year Cadets will be held this year at CMR, St. Jean, P.Q. near Montreal. Twenty-four first year Cadets (Reserve and Regular) will be attending the basic indoctrination course there before proceeding to RCAF stations across Canada to begin aircrew and technical training. W/C Gads and F/L Curry will serve on the Training staff of the Reserve Officers School at CMR.

Report of A/Lieut Commander R. S. Van Alstine, Commanding Officer, University of Alberta Naval Training Division

During the 1955-56 academic year the officers of this University Naval Training Division tender were A/Lieut Commander R. S. Van Alstine, Lieut. Commander (L) R. E. Phillips, Lt. R. S. Knowler, S/Lt. (P) C. Kerr, S/Lt. (S) R. Harle, S/Lt. E. Schwartz, S/Lt. J. C. Butt and the resident Staff officer Lt. T. S. Millman. All of these officers are on the staff of the University or are students enrolled in University courses.

A/Lieut Commander R. S. Van Alstine replaced Lieut. Commander (L) R. E. Phillips as Commanding Officer University Naval Training Division on 13 February, 1956.

During the 1956 Summer Training period 23 cadets took their practical training.

The 1955-56 session showed an enrollment of 26 cadets. The actual number of cadets who underwent winter training for the 1955-56 term was 23, 10 first year, 5 second year, 8 third year. There were 7 cadets released from this University Naval Training Division tender.

A total of 4 cadets received their promotion to the rank of Sub Lieutenant in September of 1955.

The training programme for first year cadets embodied parade training, instructional films in boat work, practical training in Knots and Splices, Communications, lectures in current affairs, Naval History and Organization, and Navigation Part 1. Second year training was designed to give cadets an opportunity to take charge. A review of Navigation Part 1 was carried out plus review courses in Gunnery, Communications, and Seamanship. Third year cadets understudied divisional officers and aided in instruction work.

The Division participated with the other two Services in the Remembrance Day Service, the Tri-Service Ball and a Band Concert presented by the RCAF Tactical Command Band on 7 March, 1956.

Four third year University Naval Training Division cadets were seconded to

the training staff of the Sea Cadets and Navy League Cadets for instructing purposes.

Three cadets were given leave of absence for one year in order that they might secure finances to return to University.

The primary purpose of the University Naval Training Division is to provide Reserve Naval Officers, but the training scheme goes beyond this purpose. It is designed to imbue trainees with a sense of duty whether ashore or afloat and to better fit them to carry on their functions as Canadian citizens.

**Extracts from the Report of the Director of the Department of Extension,
Mr. Donald Cameron**

I have the honor to submit the forty-third annual report on the extension activities of the University for the year ending March 31, 1956. This report reflects a substantial increase in time and effort given by all faculties, departments and schools, to extension and adult education activities. Generous support has been forthcoming from all members of the staff in this very important job of making the resources of the University available to the Province it serves.

Informal contact between members of the staff and the public is invaluable. It is gratifying to note that an estimated 1,205 talks, lectures and demonstrations were given by members of various departments to community organizations and groups across the Province to audiences which totalled some 75,000. An estimated 189 radio and television presentations were also prepared by members of the staff as compared with 126 last year. In addition to radio and television talks and those lectures given off the campus, staff members have been most generous with their time in dealing with requests for information and help with specific problems.

One hundred and sixty-three short courses, classes and conferences, again a substantial increase over the number offered last year, were held at various points throughout the Province. Department records show that over 6,290 people attended these classes, which involved an average of thirty hours of class time. The subject matter of these classes shows an unusual variety and includes anthropology, comparative religion, financial statement analysis, metallurgy, psychology, geology, geography, industrial relations, prospecting, sculpturing, school administration, nursing, astronomy, gas metering, painting, music and drama. The chart found in the appendix to this report indicates the wide distribution across the province of these various projects.

Courses for University credit were offered in Edmonton, Calgary, Red Deer, Vegreville, Medicine Hat and Lethbridge. Three hundred and eighty-six students, mainly teachers, were enrolled.

A most important need of this Province is that of leadership training. Through courses for adults and young people, both urban and rural, supported by farm organizations, cooperatives, organized labour, school and community organizations, and as well through a series of district meetings in close co-operation with the farm organizations, a substantial amount of worth-while work has been accomplished in this field during the year. It is gratifying to report that there is some evidence that this effort is producing positive results.

The trend of book circulation from the Extension Library over several years has been upward. Circulation figures from Library records this year show an increase in open shelf circulation of about 6% and an increase in

travelling library circulation of about 19%. The book stock at the close of the year stood at 41,531, exclusive of pamphlets and periodicals. As has been the case for many years, people across the Province have been studying through the Library such subjects as world affairs, automation, home-making, community recreation and others. To people across the province, often in isolated areas, the Library performs a valuable and important function in making easily available, the world of books. The often difficult and time-consuming job of providing answers to specific questions is another important aspect of this Library's service.

Due in part to the inception of commercial television service, the Visual Instruction Division has recorded a sharp drop in the distribution of films, filmstrips and slides. The movement of general interest material has been especially slow. The Division has continued to provide a projection and maintenance service and to advise generally on utilization of visual aids.

The Petroleum Industry Training Service, which is sponsored by the Provincial Government, the Canadian Petroleum Association and the Canadian Association of Oil Drilling Contractors, has, during the year, offered thirty-two training courses, which have been attended by 1,309 persons. There has been a substantial increase in the number of courses given this year of a technical nature. Another and important part of the work is instruction in safe working methods. The safety program has provided instruction and training for groups of drilling contract firms, not large enough to warrant individual safety staff members.

Both as a centre for the arts and as a focus of continuing education, the Banff School of Fine Arts has maintained an enviable reputation. Apart from the Summer Session in the arts, which was attended by 479 people, including 40 students enrolled in University credit courses, some sixty-five different groups of national and international origin, attended short courses, educational conferences and meetings at the School during the year. In the field of business education as well, the School has within a very few years, achieved an excellent reputation through its Advanced Management program and subsidiary series of specialized training courses in various aspects of business. These include the Executive Development course, the course in Personnel Management and the course in Financial Management and Petroleum Accounting.

Special mention should be made of the work of the University's Extension Specialists in Music, Art and Drama. Working with small groups, and for the most part, in rural areas, these staff members have done much to heighten the interest in these arts and to encourage their development. Concrete evidence of their achievements, particularly in the field of drama, are evident. Apart from assistance of a more informal nature, some forty courses in these fields were organized which were attended by 958 students.

TABLE IV—STATISTICAL INFORMATION, DIVISION OF VISUAL INSTRUCTION

Number of Moving Picture Films in Library:	
Silent, 8mm and 16mm	524
Canadian Film Institute	16
National Film Board	835
Sponsored Films	221
Sound Films, General	1,431
Total Films in Library	3,026
Number of new films added to the library during the year	124
(included in the above)	
Number of film strips in library	2,238
Number of sets of 2x2 slides in library	208

FILM CIRCULATION

	1955-56	1954-55	Comparison
Number of reels silent film sent out	840	1,141	—301
Number of reels sound film sent out	16,390	20,049	—3,659
Total sets of moving pictures sent out	4,057	5,086	—1,029
Total number showings of films, sound and silent	5,775	7,362	—1,587
Total audience viewing films	477,430	523,930	—46,500
Number of times projection service supplied	290	300	—10
Number of screenings for groups in screening room	41	74	—33

SLIDES AND FILMSTRIPS

	1955-56	1954-55	Comparison
Number of 2x2 slides sent out	138	223	—85
Number of times slides used	101	179	—78
Total audience viewing slides	4,356	6,729	—2,373
Individual filmstrips sent out	3,713	4,046	—333
Total audience viewing strips	86,653	102,387	—15,764

TABLE V—GENERAL STATISTICAL SURVEY

Lectures

University teaching staff	633	
Department of Extension staff	572	
	—	1,205
Aggregate attendance		75,530
Number of radio talks:		
Extension staff	34	
Regular teaching staff	155	
	—	189
Conferences and short courses, Table II		6,294
Studio Theatre attendance		5,657
Feeders' Day attendance	900	
Breton Field Day	350	
	—	1,250

Visual Instruction

Number of 2x2 and standard slides sent out	138	
Number of times slides used	101	
Total audience viewing slides		4,356
Individual filmstrips sent out	3,713	
Total audience viewing filmstrips		86,653
Number of reels of silent film sent out	840	
Number of reels of sound film sent out	16,390	
Total sets of moving picture films sent out	4,057	
Total number of showings of films, sound and silent	5,775	
Total audience viewing films		477,430
Number of times projection service supplied	290	
Number of screenings for groups in screening room	41	
Total number of screenings	331	

Library Circulation

Travelling Libraries

Regular Libraries	112 (4,330 vols.)
Special Libraries	547 (19,327 vols.)
Recorded Circulation	46,280

Open-Shelf

Adult Books	42,106
Juvenile Books	5,521
Plays	1,931
Periodicals and pamphlets	2,524

Total 52,082

Banff School 1,120

New Canadian Plays

Number of copies of New Canadian Plays sold	321
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Publications

Press Bulletin, Seasonal Notes	10,000
Press Bulletin, Feeders' Day Program	5,000
	15,000
Agriculture bulletins sent out during year	25,915
Circulars and other bulletins sent out	1,231
Mimeos	6,100
	33,246
Total number of bulletins distributed since inception of service	657,391
The New Trail, number sent out	10,270

RECAPITULATION

Total aggregate attendance at lectures, conferences, schools and short courses; filmstrip programs, moving pictures, Studio Theatre, field days	657,170
Total circulation of library books in Open Shelf and Travelling Library, Citizens' Forum bulletins, New Canadian Plays	100,923
Total circulation of press bulletins, agricultural publications, the New Trail	58,516

Conclusion

Adult education and extension work has been variously described as a manner of stimulating inquiring minds, as a way of helping people to better their economic position through training and a means of assisting them to become more proficient in the handling of their community affairs. Canadian people are reaching out for an understanding of the world they live in and an appreciation of their cultural heritage. The purpose of this report is to describe some of the ways in which this demand for information and training have been met.

Schooling attained early in life is, of itself, an inadequate preparation for complex modern living. Continuing education thus becomes a vital necessity. The task of helping to provide these educational opportunities is a big one and fundamental to its success is a firm basis in cooperation with organizations of many kinds. Through this framework of cooperation, the University is in the future best able to serve and be served.

Table II—Short Courses, Classes and Conferences Arranged and Organized by the Department of Extension

Short Course, Class or Conference	Sponsor	Where Held	Period	Hours	Attendance
1. The Evolution of Man and the Development of Race	Department of Extension	Edmonton	Oct. 17-Dec. 19	15	32
2. Public Speaking	Department of Extension	Edmonton	Oct. 17-Dec. 19	15	61
3. Commercial Law	Department of Extension	Edmonton	Oct. 11-Dec. 13	15	60
4. Comparative Religion 1	Department of Extension	Edmonton	Oct. 12-Dec. 14	15	26
5. Financial Statement Analysis	Department of Extension	Edmonton	Oct. 12-Dec. 14	15	45
6. Guideposts to the World of Books	Department of Extension	Edmonton	Oct. 13-Dec. 15	15	33
7. English Composition 1	Department of Extension	Edmonton	Oct. 14-Dec. 16	15	38
8. Conversational French (Section I)	Department of Extension	Edmonton	Oct. 14-Dec. 16	15	20
9. Conversational French (Section II)	Department of Extension	Edmonton	Oct. 18-Dec. 13	15	19
10. Conversational French (Section III)	Department of Extension	Edmonton	Jan. 31-Mar. 30	15	15
11. Conversational French (Section IV)	Department of Extension	Edmonton	Jan. 27-Mar. 27	15	14
12. Approach to Music III	Department of Extension	Edmonton	Oct. 14-Dec. 16	15	15
13. The Great Philosophers	Department of Extension	Edmonton	Oct. 14-Dec. 16	15	15
14. The Hebraic Heritage	Department of Extension	Edmonton	Jan. 23-Mar. 26	15	32
15. Effective Chairmanship	Department of Extension	Edmonton	Jan. 23-Mar. 26	15	25
16. Psychology of Personal Adjustment	Department of Extension	Edmonton	Jan. 23-Mar. 26	15	42
17. Landscape Design (Section I)	Department of Extension	Edmonton	Jan. 24-Mar. 27	15	47
18. Landscape Design (Section II)	Department of Extension	Edmonton	Jan. 24-Mar. 27	15	32
19. Introducing the Old Testament	Department of Extension	Edmonton	Jan. 25-Mar. 28	15	33
20. World Affairs	Department of Extension	Edmonton	Jan. 25-Mar. 28	15	25
21. English Composition II	Department of Extension	Edmonton	Jan. 25-Mar. 28	15	18
22. Geology	Department of Extension	Edmonton	Jan. 27-Mar. 30	15	27
23. Choral Leadership	Department of Extension	Edmonton	Jan. 27-Mar. 30	15	34
24. Principles of Gardening	Department of Extension	Edmonton	Jan. 28-Mar. 29	15	37
25. Conversational French (Section I)	Department of Extension	Edmonton	Feb. 13-Apr. 16	15	45
26. Conversational French (Section II)	Department of Extension	Edmonton	Feb. 13-Apr. 16	15	48
27. Conversational French (Section III)	Department of Extension	Edmonton	Feb. 13-Apr. 16	15	23
28. Law for the Layman	Department of Extension	Calgary	Feb. 31-Apr. 3	15	18
29. A Background to Current Events	Department of Extension	Calgary	Feb. 1-Apr. 4	15	16
30. Commercial Law	Department of Extension	Calgary	Feb. 1-Apr. 4	15	16
31. Education 310	Department of Extension	Calgary	Feb. 2-Apr. 5	15	70
32. Education 322B	Department of Extension	Calgary	Feb. 2-Apr. 5	15	14
33. Education 492	Department of Extension	Calgary	Feb. 2-Apr. 5	15	18
34. English 70	Department of Extension	Calgary	Feb. 2-Apr. 5	15	17
35. Geography 1	Department of Extension	Medicine Hat	Oct. 3-Apr. 14	80	12
36. History 56	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	42
37. History 59	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	30
38. Accounting 1	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	36
39. Accounting 1	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	50
40. Economics 1	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	34
41. Education 376	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	16
42. Biology 41	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	8
43. Education 308	Department of Extension	Calgary	Oct. 3-Apr. 14	80	9
44. History 58	Department of Extension	Calgary	Oct. 3-Apr. 14	80	38
		Lethbridge	Oct. 3-Apr. 14	80	28
		Medicine Hat	Oct. 3-Apr. 14	80	10
		Red Deer	Oct. 3-Apr. 14	80	32

45. History 58	Department of Extension	Vegreville	Oct. 3-Apr. 14	80	24
46. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 3-Apr. 14	80	58
47. Accounting I	Society of Ind. and Cost Accountants of Alta.	Calgary	Oct. 3-Apr. 14	80	30
48. Accounting II	Society of Ind. and Cost Accountants of Alta.	Calgary	Oct. 3-Apr. 14	80	36
49. Advanced Cost Accounting	Society of Ind. and Cost Accountants of Alta.	Calgary	Oct. 3-Apr. 14	80	21
50. Business Mathematics	Society of Ind. and Cost Accountants of Alta.	Calgary	Oct. 3-Apr. 14	80	57
51. Accounting I	Society of Ind. and Cost Accountants of Alta.	Edmonton	Oct. 3-Apr. 14	80	51
52. Accounting II	Society of Ind. and Cost Accountants of Alta.	Edmonton	Oct. 3-Apr. 14	80	36
53. Advanced Cost Accounting	Society of Ind. and Cost Accountants of Alta.	Edmonton	Oct. 3-Apr. 14	80	16
54. Business Mathematics	Society of Ind. and Cost Accountants of Alta.	Edmonton	Oct. 3-Apr. 14	80	27
55. Industrial Relations	Department of Extension	Edmonton	Oct. 3-Apr. 14	80	30
56. Prospecting	Alberta and Northwest Chamber of Mines, Canadian Institute of Mining and Metallurgy	Edmonton	Jan. 17-Feb. 28	28	63
57. An Introduction to Practical Metallurgy (Monday's class)	American Society for Metals and Department of Extension	Edmonton	Feb. 6-Mar. 26	16	94
58. An Introduction to Practical Metallurgy (Tuesday's class)	American Society for Metals and Department of Extension	Edmonton	Feb. 7-Mar. 27	16	92
59. Social Work in the Community (Class A)	Canadian Association of Social Workers, Northern Branch and Department of Extension	Edmonton	Jan. 31-Apr. 3	20	55
60. Social Work in the Community (Class B)	Canadian Association of Social Workers, Northern Branch and Department of Extension	Edmonton	Jan. 31-Apr. 10	20	60
61. Clinical Medicine for Chiropodists	Chiropody Association and Department of Extension	Edmonton	Oct. 17-Oct. 18	12	11
62. Sculpturing	Department of Extension	Edmonton	Oct. 14-Mar. 23	40	15
63. Ceramics	Department of Extension	Edmonton	Jan. 18-Mar. 26	30	12
64. English Usage	Alberta Institute of Chartered Accountants	Edmonton	Jan. 21-Mar. 10	16	19
65. English Usage	Alberta Institute of Chartered Accountants	Calgary	Mar. 24-May 26	16	19
66. English Usage	Alberta Institute of Chartered Accountants	(Correspondence students)	Jan. 21-Mar. 10	9	9
67. Banff School of Fine Arts	Banff School of Fine Arts	Banff	July 4-Aug. 13	479	
68. Summer Session	Banff School of Fine Arts	Banff	Jun. 20-Jul. 2	15	15
69. June Short Course in Painting	Banff School of Fine Arts	Banff	Aug. 15-Sept. 10	28	28
70. Autumn Short Course in Painting	Universities of Alberta, British Columbia, Manitoba and Saskatchewan	Banff	Jan. 30-Mar. 10	77	
71. Banff School of Advanced Management	Department of Extension	Banff	Mar. 19-Mar. 31	228	36
72. Short Course in Executive Development	Department of Extension	Banff	May 16-May 20	31	48
73. Life Insurance Marketing Institute	Marketing Institute of Purdue University and The Alberta Life Underwriters' Assn.	Banff	Nov. 14-Nov. 26	90	16
74. Personnel Management	Department of Extension and the Calgary and Edmonton Personnel Associations	Banff	Nov. 7-Nov. 19	65	9
75. Training Conference for Instructors of Supervisors in Industry	Banff School of Fine Arts	Banff	Nov. 7-Nov. 19	65	9

Table II—continued

Short Course, Class or Conference

	Sponsor	Where Held	Period	Hours	Attendance
75. Financial Management and Petroleum Accounting	The Petroleum Accountants Society of Western Canada and The Department of Extension	Banff	May 11-May 13	18	84
76. School Administration	Alberta School Trustees' Association, Dept. of Education and Alberta Divisional Secretary-Treasurers Association	Banff	May 30-Jun. 1	15	94
77. Municipal Administration	Dept. of Municipal Affairs, Alberta Assn. of M.D. Secretary-Treasurers	Banff	May 24-May 26	17	47
78. Home and School Workshop in Group Methods	Department of Extension, Alberta Federation of Home and School Associations	Banff	Oct. 17-Oct. 20	16	54
79. Institute on Team Nursing	School of Nursing, Faculty of Medicine, Department of Extension	Edmonton	May 19-May 21	18	35
80. Institute on Team Nursing	School of Nursing, Faculty of Medicine, Department of Extension	Calgary	May 16-May 18	18	37
81. Introduction to Astronomy	Department of Extension and The Astronomical Society	Edmonton	Oct. 1-Dec. 10	12	14
82. Short Course for Librarians of Small Libraries	Alberta Library Association and Dept. of Extension	Edmonton	May 24-May 27	24	21
83. Short Course in Rorschach Psychological Testing	Department of Extension	Edmonton	May 2-May 7	30	7
84. Supervisory Training	Dept. of Extension and School of Commerce	Edmonton	Oct. 11-Feb. 13	32	52
85. Management Development	Dept. of Extension and School of Commerce	Edmonton	Oct. 17-Feb. 20	32	33
86. Personnel Administration	Dept. of Extension and School of Commerce	Edmonton	Oct. 14-Feb. 17	32	31
87. Supervisory Training	Dept. of Extension and School of Commerce	Calgary	Feb. 21-May 22	28	36
88. Management Development	Dept. of Extension and School of Commerce	Calgary	Feb. 20-May 21	28	31
89. Personnel Administration	Dept. of Extension and School of Commerce	Calgary	Feb. 21-May 22	28	14
90. Financial and Accounting Controls	Dept. of Extension and School of Commerce	Edmonton	Feb. 20-May 28	30	20
91. Managing Investments	Dept. of Extension and the Calgary and Edmonton Branches of the Investment Dealers' Association	Edmonton	Jan. 24-Mar. 6	14	63
92. Managing Investments	Dept. of Extension and the Calgary and Edmonton Branches of the Investment Dealers' Association	Calgary	Jan. 24-Mar. 6	14	97
93. Farm Young People's Week	Dept. of Extension, Faculty of Agriculture and School of Household Economics	Edmonton	May 31-Jun. 8	50	103
94. Short Course in Leadership Techniques	The A.W.P., Alberta Cooperative Union, Dept. of Agriculture, Alberta Federation of Agriculture, Farmers' Union of Alberta, U.F. Co-op., U.G.G.	Banff	Oct. 24-Nov. 4	40	38
95. Farmers' Union of Alberta Short Course	Farmers' Union of Alberta and Department of Extension	Lethbridge	Feb. 3	6	40
96. Farmers' Union of Alberta Short Course	Farmers' Union of Alberta and Department of Extension	Daysland	Mar. 25	6	62
97. A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Vermilion	Jun. 13	6	16

98.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Wetaskiwin	Jun. 16	6	25
99.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Fairview	Nov. 14-Nov. 15	12	15
100.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Grande Prairie	Nov. 17-Nov. 18	12	17
101.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Plamondon	Dec. 6-Dec. 7	12	22
102.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Lethbridge	Feb. 3	6	19
103.	A.C.W.A. Short Course	Alberta Cooperative Wholesale Assn. and Department of Extension	Olds	Feb. 7-Feb. 8	12	21
104.	Oilwell Safety Clinic	P.I.T.S., W.C.B., C.P.A., C.A.O.D.C.	Banff	May 5-May 6	12	136
105.	Casing Technique in Western Canada	Petroleum Industry Training Service	Edmonton	May 25	6	89
106.	Treating Oilfield Emulsions	Petroleum Industry Training Service	Edmonton	Sep. 19-Sep. 23	30	43
107.	Drilling Muds	Petroleum Industry Training Service	Edmonton	Oct. 17-Oct. 22	30	14
108.	Drilling Muds	Petroleum Industry Training Service	Drayton Valley	Nov. 29-Dec. 2	12	25
109.	Drilling Muds	Petroleum Industry Training Service	Valleyview	Dec. 13	3	59
110.	Care and Use of Wire Rope	Petroleum Industry Training Service	Drayton Valley	Jan. 18	3	82
111.	Care and Use of Wire Rope	Petroleum Industry Training Service	Red Deer	Jan. 25	3	65
112.	Care and Use of Wire Rope	Petroleum Industry Training Service	Valleyview	Feb. 13	3	76
113.	Field Handling of Natural Gas	Petroleum Industry Training Service	Edmonton	Jan. 9-Jan. 13	30	132
114.	Casing and Cementing	Petroleum Industry Training Service	Valleyview	Feb. 15	3	94
115.	Casing and Cementing	Petroleum Industry Training Service	Red Deer	Feb. 22	3	80
116.	Casing and Cementing	Petroleum Industry Training Service	Drayton Valley	Feb. 29	3	74
117.	Gas Metering	Petroleum Industry Training Service	Stettler	Feb. 24	3	63
118.	Gas Metering	Petroleum Industry Training Service	Red Deer	Feb. 27	3	37
119.	Field Handling of Natural Gas	Petroleum Industry Training Service	Calgary	Mar. 5-Mar. 9	30	58
120.	Drilling Bits	Petroleum Industry Training Service	Red Deer	Mar. 14	3	63
121.	Drilling Bits	Petroleum Industry Training Service	Red Deer	Mar. 21	3	54
122.	Engine Maintenance	Petroleum Industry Training Service	Stettler	Mar. 28	3	64
123.	Choral Singing and Conducting	Department of Extension	Brooks	Oct. 3-Dec. 10	20	41
124.	Choral Singing and Conducting	Department of Extension	Edson	Oct. 7-Dec. 8	20	27
125.	Choral Singing and Conducting	Department of Extension	Hanna	Feb. 1-Apr. 11	20	37
126.	Choral Singing and Conducting	Department of Extension	Lloydminster	Sep. 27-Dec. 5	20	30
127.	Choral Singing and Conducting	Department of Extension	Medicine Hat	Sep. 20-Nov. 29	20	36
128.	Choral Singing and Conducting	Department of Extension	Olds	Sep. 3-Apr. 13	20	24
129.	Choral Singing and Conducting	Department of Extension	Vegreville	Feb. 3-Apr. 13	20	24
130.	Music Appreciation	Department of Extension	Red Deer	Oct. 5-Dec. 7	20	28
131.	Piano Master Class	Department of Extension	Nov. 14-Feb. 20	Nov. 14-Feb. 20	20	29
132.	Drama Workshop	Department of Extension	Grande Prairie	Sep. 1-Sep. 3	24	15
133.	Drama Workshop	Department of Extension	Lethbridge	Oct. 13-Oct. 15	10	25
134.	Drama Workshop	Department of Extension	Coaldale	Oct. 17-Oct. 19	10	15
135.	Drama Workshop	Department of Extension	Red Deer	Feb. 14-Feb. 16	10	10
136.	Community Art Class	Department of Extension	Edmonton	Oct. 28-Apr. 20	30	15
137.	Community Art Class	Athabasca Art Club	Athabasca	Oct. 21-Apr. 13	20	25
138.	Community Art Class	Brooks Art Club	Brooks	Oct. 7-Apr. 21	102	10
139.	Community Art Class	Bentley Art Club	Bentley	Oct. 14-Apr. 6	20	9
140.	Community Art Class	Castor Art Club	Castor	Oct. 13-Apr. 5	15	30
		Camrose Art Club	Camrose	Oct. 13-Apr. 1	20	30

Table II—continued

Short Course, Class or Conference	Sponsor	Where Held	Period	Hours	Attendance
141. Community Art Class	Drumheller Art Club	Drumheller	Oct. 10-Mar. 5	20	30
142. Community Art Class	Fort Saskatchewan Art Club	Fort Saskatchewan	Oct. 19-Mar. 14	12	20
143. Community Art Class	Grande Prairie Art Club	Grande Prairie	Oct. 18-Apr. 10	20	25
144. Community Art Class	Holden Art Club	Holden	Nov. 21-Mar. 19	10	20
145. Community Art Class	High River Art Club	High River	Oct. 3-Apr. 16	19	25
146. Community Art Class	Innisfree Art Club	Innisfree	Oct. 20-Mar. 15	20	7
147. Community Art Class	Kitscoty Art Club	Kitscoty	Oct. 20-Mar. 15	20	4
148. Community Art Class	Lethbridge Sketch Club	Lethbridge	Oct. 5-Apr. 19	96	70
149. Community Art Class	Lloydminster Art Club	Lloydminster	Oct. 20-Mar. 15	20	23
150. Community Art Class	Lacombe Art Club	Lacombe	Oct. 14-Apr. 6	20	20
151. Community Art Class	Meeting Creek Art Club	Meeting Creek	Oct. 15-Apr. 1	20	15
152. Community Art Class	Medicine Hat Art Club	Medicine Hat	Oct. 7-Apr. 6	72	40
153. Community Art Class	Medicine Hat Art Club (Jr)	Medicine Hat	Oct. 7-Apr. 6	30	50
154. Community Art Class	Manville Art Club	Manville	Oct. 20-Mar. 15	8	8
155. Community Art Class	Nanton Art Club	Nanton	Oct. 4-Apr. 17	20	27
156. Community Art Class	Rocky Mountain House Art Club	Rocky Mtn. House	Oct. 11-Apr. 3	16	30
157. Community Art Class	Red Deer Art Club	Red Deer	Nov. 9-Apr. 4	20	15
158. Community Art Class	Suffield Art Club	Suffield	Oct. 7-Dec. 3	24	8
159. Community Art Class	Vulcan Art Club	Vulcan	Oct. 4-Apr. 17	20	20
160. Community Art Class	Viking Art Club	Viking	Nov. 21-Mar. 19	10	30
161. Community Art Class	Wetaskiwin Art Club	Wetaskiwin	Nov. 12-Apr. 7	15	25
162. Community Art Class	Gleichen Art Club	Gleichen	Apr. 25-Apr. 27	11	7
163. Industrial Relations	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 3-Apr. 14	80	23
					6,294

Report of Dr. R. D. Stuart, Director, Provincial Laboratory of Public Health for the year 1955

During 1955 the Provincial Laboratories carried out 370,997 examinations, the nature of which is shown in the accompanying tables. This indicates a steady increase in almost all sections, but the new method of presentation of this report prevents direct comparison with the previous years. The necessity for this rearrangement was anticipated in last year's report, because the previous method which had developed during the early growth of the laboratory service, no longer presented adequately the work carried out in the laboratories. Thus the apparent increase over last year of 76,783 examinations represents not only the real increase during 1955 but also to some degree the inadequate evaluation of the work carried out in 1954.

Special Trends

A very obvious trend towards the provision in each Province of facilities of virus diagnosis is apparent across Canada. Ontario and Quebec have had special laboratories for some years, Saskatchewan and British Columbia have either set up virus units or are in the process of doing so. Manitoba has a virus laboratory within the medical school which is available for provincial work, and the Maritimes are planning on a combined unit, anticipated in the appointment of the well-known virologist Dr. van Rooyen to Dalhousie University and to the Health Division of the Province of Nova Scotia. In Alberta, with the assistance of the Laboratory and Radiological Services Grant, a considerable amount of special equipment for virus work has been purchased and plans for the development of staff and the provision of service space are well advanced. The recent remarkable developments in our ability to identify and culture poliomyelitis viruses and the considerable success of the Salk vaccine merely emphasize the fact that viruses are gradually coming under the scope of the larger provincial laboratories and that increased laboratory information about their nature and identity is becoming necessary to provincial health authorities.

In the Central Provincial Laboratory. The increasing number of deaths attributable directly or indirectly to staphylococcal infections is commented on by Dr. Macgregor, Provincial Pathologist. This reflects a situation which is becoming of major medical concern across Canada and is due essentially to an increasing predominance of highly virulent antibiotic-resistant strains of such bacteria. Undoubtedly this circumstance explains the dramatic increase in the demands for tests on the antibiotic sensitivity of organisms, the numbers of which have practically doubled this year both in Edmonton and Calgary, and for the considerable increase in miscellaneous bacteriology recorded in both laboratories. This is commented on below under "New or Supplementary Services". Another trend detected in the large amount of autopsy material handled by the Department of Pathology in the Provincial Laboratory is the large number of deaths due to coronary occlusions and the increase in number of aneurysms of the abdominal aorta. This trend, however, is probably an expression of the greater number of individuals who now survive to an advanced age and in whom increasing arterial degenerative changes are inevitable.

In the Southern Branch Laboratory. Limitation of certain desirable but not essential services has become inevitable owing to the heavy increase in general diagnostic bacteriology carried out for practitioners and in all aspects of

sanitary control of milks and waters. The limitation is due essentially to the difficulty in finding technical and clerical staff willing to take up appointments in the laboratory as presently located. Its unfortunate situation thirteen miles away from the main residential and shopping centre of Calgary, has caused much difficulty to the Director, Dr. Shute, in his endeavours to maintain adequate staffs particularly during a period of full employment. He hopes that the service for the diagnosis of gonorrhoea by cultural methods, of great assistance to the Department of Social Hygiene in this area, will be resumed shortly.

New or Supplementary Services

A new service, antistreptolysin tests on blood serum, has been taken over by the central laboratory. The tests, which are considered of great value in the determination of a possible rheumatic aetiology of many disease conditions, were previously carried out by arrangement with the Department of Bacteriology. In the present year over 500 such tests have been carried out in the Provincial Laboratory and a considerable demand is experienced from all the Edmonton hospitals.

Another new service, the bacteriophage typing of staphylococci, has had to be developed in an endeavour to provide information for the control of staphylococcal infections in hospitals. This enables one to determine the importance of individual strains or types of staphylococci in the spread of infections or to detect a rising incidence of such infections in any area or hospital unit. The work is extremely complicated and demands the services of a highly skilled technical worker, but is considered to be of primary importance at the present time. Although the service has only been in partial operation during the latter half of the year, no fewer than 5,222 examinations have been carried out on 1,306 strains of staphylococci. To avoid overemphasizing the magnitude of this work, the last figure has been shown in Table I.

An important supplementary service has also been provided during the year through the personal interest of Dr. Amies in swimming pool hygiene. Dr. Amies carried out extensive work on Edmonton swimming pools during the season. The work, which involved many hundreds of examinations not shown anywhere on the tables, demonstrated the inefficiency, in relation to pool hygiene, or current methods of examination and led to the development of a completely new technique. The information obtained will be of great service to the Provincial Board of Health in amending present regulations.

In the Southern Branch Dr. Shute's staff under the direction of Dr. Crichton carried out a special investigation into an outbreak of sore throats in school children within the Mountain View and Bow Valley Health Units. In all 506 throat swabs were examined and a high incidence of haemolytic streptococci was detected.

Regular Services

In Pathology the examination of human tissues removed at surgical operations continued to be a major item in both laboratories. In Edmonton the examination of 7,810 specimens, from rural hospitals alone, resulted in the diagnosis of 497 cases of cancer and emphasized the important role of this laboratory even outside the main population centres. Of the total number of such specimens, 17,513 received in Edmonton and Calgary from all sources

(see Table I), 1,376 showed evidence of malignancy, a cancer incidence of over 12%.

The high incidence in the Edmonton area of a type of dysentery due to *Shigella sonnei* suggests the increasing importance of this organism as a cause of disease. Most of the cases, however, were associated with the Red Deer area in which an epidemic focus was indicated in last year's report. *C. diphtheriae* has again been isolated from a number of patients this year. No significant number of cases of diphtheria has yet been recorded, but the organism has appeared in a number of separate localities particularly in the northern half of the Province. Its persistence and wide distribution indicates the continued importance of thorough immunization of school children.

The striking increase, from 775 in 1954 to 1,219 this year, in the numbers of examinations carried out for fungus infections indicates the increasing demand for this type of investigation and reflects the enthusiasm of the mycologist, Dr. Carmichael. These examinations are very time-consuming and require very special training and experience and it is our good fortune that the Province was able to contribute directly to Dr. Carmichael's training.

Staff

Miss Mary Forge, Senior Technologist in Pathology, with the assistance of a Provincial Training Grant, spent a period of three months studying new and special techniques in England and the United States. Her time was divided between the British Post-Graduate Medical School in London, the Papanicolou Institute in New York and the Army Medical Institute of Pathology, Washington, D.C. The new techniques which she brought back are being introduced into the surgical and autopsy tissue services and should considerably increase their proficiency.

Mr. A. B. Lamb, M.Sc., of the Department of Bacteriology, resigned his position with the Laboratory this year to take up an appointment under the Defence Research Board, and Dr. Barry Pierce of the Department of Pathology also resigned to continue training in pathology at the University of Pittsburgh.

Continual changes in technical staff and the introduction of often completely untrained newcomers has thrown a great burden on the more senior members of the technical and supervisory staff. My appreciation of the extra work they have cheerfully undertaken must be publicly acknowledged.

Table I
Examinations Performed in the Provincial Laboratories
Year 1955

	Edmonton	Calgary
<i>Control of Common Infections</i>		
Diphtheria	3,649	920
Enteric-dysentery	5,656	2,574
Fungus infections	1,219	59
Intestinal Parasites	262	58
Naso-pharyngitis	8,067	1,615
Tularaemia serology	1,846	1,090
Tuberculosis	10,087	2,009
Undulant Fever serology	1,846	1,090
Whooping Cough	17	19

Other diagnostic and miscellaneous

Animal inoculations (other than T.B.)	128	8
Antibiotic etc. sensitivities—disc	74,397	16,479
tube	14	696
Blood cultures	1,032	148
Leptospirosis	238	.....
Miscellaneous	14,816	3,645
Paul Bunnell test	1,016	150
P.M. Bacteriology	267	.....
Referred cultures	222	33
Special investigations	1,834	2
Trichomonas	3,233	853
Virus infections	56	.....

Venereal Disease Control

Chancroid etc.	12	
Gonorrhoea—Smears	10,522	5,874
Cultures	3,435	853
Syphilis	115,006	34,411

Sanitary Bacteriology

Food Products	50	7
Milk and Cream	2,764	4,263
Water	5,606	7,015
Utensils		

Pathology

Diagnostic cytology—blood smears	340	169
bone marrow	25	14
fluids	351	376
Routine diagnostic histology—specimens	13,241	4,272
Routine diagnostic autopsies	353	18
Medico-legal autopsies	59	
Referred diagnostic histology	16	
Pregnancy Diagnosis—Frog Test	548	
Rabbit Test	47	

TOTALS	282,277	88,720
---------------	----------------	---------------

**Report of Dr. D. Shute, Director of the Provincial Laboratory of Public Health,
Southern Branch**

For the year 1955

The year 1955 has seen a very considerable increase in the volume of work conducted in the Provincial Laboratory, Southern Branch, Calgary.

Particularly notable are the increases in Miscellaneous Bacteriology (176%), Sanitary Bacteriology—dairy products (58%) water examinations (22%) and Diagnostic Histology (19%).

Owing to this overall increase of work and losses and changes of staff, the sub-department for the culture of the gonococcus had to be closed down. It is hoped that this will prove to be only a temporary measure.

In the late spring there was an outbreak of clinically mild sore throats in school children in the areas covered by the Mountain View and Bow Valley Health Units (Strathmore, Olds, Bowness, Beiseker and Bassano).

A total of 239 throat swabs were examined—181 from children with symptoms and 58 from asymptomatic contacts.

As a result of this small epidemic a survey of symptom free school children was made later and 267 throat swabs were examined: 52 (19.5%) were found to be harbouring haemolytic Streptococci.

Forty-three strains of these haemolytic Streptococci were grouped and 32 were found to belong to Group A (beta haemolytic Streptococci).

One child developed rheumatic fever and the single swab examined from her throat showed no streptococci.

This investigation naturally entailed a considerable expenditure of time for Dr. Crichton and the technical staff.

There was no other major outbreak of contagious or infectious disease with which this laboratory was concerned.

The maintaining and recruiting of suitable secretarial and technical staff continues to be a major administrative difficulty owing to the unfortunate siting of the laboratory ten miles west of Calgary.

Report of C. Emerson Noble, Director of the Industrial Laboratories

I would give you the following report for the Department of Provincial Analyst and Industrial Laboratories for the year April 1, 1955 to March 31, 1956.

Examinations and Analyses

Acid	2	Cheese	1
Aggregate	3	Chlorine compounds	4
Alcohol	1	Chrome	1
Alfalfa	1	Cinders	1
Aluminum	1	Clay	37
Amine	1	Cleanser	6
Antifreeze	4	Cloth	7
Ash	2	Clothes	26
Asphalt	1	Coal	7
Barley	1	Coffee	3
Barytes	8	Concrete	45
Bauxite	1	Copper	1
Bentonite	5	Cores	1
Blood	247	Cracklings	1
Bone Meal	1	Cream	2
Brain (for alcohol)	25	Concentrate	1
Brewer's Yeast	1	DDT	1
Breakfast Cereal	6	Deposits	34
Brass	4	Dolomite	1
Butter	3	Dust	6
Candy	1	Dye	1
Car parts	2	Egg Powder	4
Catalyst	3	Embalming Fluid	1
Cement	16	Fat	1
Cerebral Fluid	1	Feed (Animal)	43

(Poultry)	47	Mortar	9
(Concentrates)	9	Mud	5
Fertilizers	1	Narcotics (O & ND Exhibits) ..	11
Fiber Glass	329	Nails	3
Fire Exhibits	13	Oats	2
Fish	1	Oil (Lubricating)	5
Flax	1	(Protective)	1
Flour	4	(Fuel)	1
Food (Human)	24	(Edible)	3
Fruit	3	Ore	356
Fruit Juice	4	Paint	11
Fungi	6	Paper	4
Furs	4	Penetrant	13
Galena	3	Pills	2
Gasoline	9	Pipe Metal	1
Glaubers Salts	6	Plants	1
Glass	12	Plaster	6
Glycol	4	Poison Exhibits (Misc.)	3
Grain	1	Poison Exhibits (Human)	351
Gravel	4	Police Exhibits (Misc.)	87
Grass	1	Powder	6
Granite	1	Protein	2
Graphite	1	Resin	1
Grease	2	Rock	221
Gypsum	4	Rug	1
Hair	4	Sand	54
Hay	4	Sandstone	1
Honey	1	Salt	2
Hydraulic Fluid	3	Scale	10
Industrial Chemicals	5	Schist	2
Insects	2	Sediment	1
Iron	7	Sewage	1
Lead	2	Shale	22
Liquor (Detailed for ALCB) ..	67	Shoe	1
(Malt for ALCB)	914	Silica	1
(Miscellaneous)	11	Silage	2
(Police Samples)	103	Sludge	1
Liquid	5	Soap, ...	18
Lime	4	(Soap Powder)	1
Limestone	58	(Detergent)	1
Linseed Oil	1	Soft Drinks	1
Magnetite	4	Soils	77
Marl	146	Solvent	2
Meat	12	Sterilizing Solutions	4
Medical Compounds	18	Solutions	4
Medicine	3	Steel	52
Metal	7	Stucco	1
Mica	3	Sugar	1
Milk	7	Sulphur	1
Minerals	4	Stomach	29
Miscellaneous	40	Talc	1

Tankage	24
Urine	62
Volcanic Ash	4
Water (Sanitary)	2,298
(Boiler)	11
(Industrial)	33
Wall Board	2
Wax	8
Wire	1
Wheat	104
Wood	19
Veterinary Specimens	736

<i>Engineering Materials:</i>	
Batteries	2
Concrete Cylinders	1,827
Cables	15
Electrician's Gloves	249
Lightning Arresters	74
Motors	2
Millivoltmeter	2
Potentiometer	1
Recording Demand Meter	1
Street Lighting Units	3
Transformer Oil	8
Thermometer tester	1
Voltmeter	1

During the year 1955-6 The Industrial Laboratories and Provincial Analyst carried out 9,391 analyses and tests, which is an overall drop. The decrease is in the number of Engineering tests made for the laboratory and handled in conjunction with the Departments of Civil and Electrical Engineering. The number of these tests dropped from 4,734 to 2,186, and is mainly due to Commercial Laboratories taking over the concrete testing.

The number of analyses made in these laboratories showed an increase. Many of these were made as required for Provincial Government Departments such as the Attorney General, Agriculture, Alberta Liquor Control Board, Mines and Forests, Lands and Minerals, Health, Provincial Secretary, Highways, and Public Works.

Control analyses were made for the Alberta Liquor Control Board re the Breweries and the Breweries were examined monthly.

Chemical Examinations were made for the Provincial Coroner and for the Pathologists of the Alberta Hospitals, and necessary court evidence was given under the Dominion and Provincial Acts and Regulations.

Exhibits from the various police departments were examined and court evidence given as required.

As in the past the greatest increases are in the analyses for health, pathology, and the Veterinary Laboratory, which are most time consuming. The Police work also continues to increase, whereas commercial analyses decrease as more industrial analyses are done privately and less time is available for this work. Many of the commercial analyses require considerable research. Methods of analysis require considerable research, especially in search of methods to suit available apparatus.

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To the Lieutenant-Governor in Council

SIR:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the Report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1957, and investments as they stood at the end of the fiscal year.

Appended to this report is the report of the President of the University, in which the academic work of the University for the year July 1, 1956 to June 30, 1957, is dealt with in detail.

C. M. MACLEOD, Chairman
A. STEWART, President

November 30, 1957

Edmonton, Alberta, July 17, 1957

I have audited the books and records of the university of Alberta for the year ended March 31, 1957. The undernoted statements are submitted herewith:

Statement	Particulars
A	Balance Sheet
B	Statement of Operating Reserve
C	Statement of Revenue and Expenditure

Operating Results

Operations for the year under review resulted in a surplus of \$412,617.77. Details of operations are shown in Statement C and accompanying schedules.

The surplus for the year has been carried to operating reserve. Transactions within the reserve are set forth in Statement B.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:

Balance as at April 1, 1956\$ 13,459,153.10

Add:

Advances during the year:

Administration building	712,687.70
Biological science wing, Agriculture bldg.	142,881.14
North laboratory	55,711.26
Sewers and water mains	52,322.49
Paving and landscaping	33,310.98
Greenhouse and headhouse	25,852.48
Improvements, buildings and grounds	33,405.56
Equipment	177,857.66

\$ 14,693,182.37

Capital surplus:

Balance as at April 1, 1956\$ 2,506,754.86

Add:

Acquired from trusts and donated funds:

Equipment	2,177.13
Library	5,239.44

Provided from reserve fund:

Land exchange	7,211.74
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Income contributions:

Buildings	18,829.91
Equipment	6,931.53
Library	36,052.78

2,583,197.39

\$ 17,276,379.76

Subject to the foregoing remarks, I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1957, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the results of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.

Provincial Auditor.

Financial Statements

STATEMENT A

UNIVERSITY OF ALBERTA

BALANCE SHEET AS AT MARCH 31, 1957

ASSETS

Buildings and equipment in service:			
Land, buildings and plant	\$	14,216,287.82	
Furnishings and equipment		2,978,358.07	
			\$ 17,194,645.89
Loans receivable:			
Students' Union re Students' Union building, see contra			254,173.90
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$185,500.00)			198.100.00
Current:			
Cash on hand and in bank	\$	630,580.17	
Accounts receivable:			
Sundry debtors	\$	96,450.89	
Less: Allowance for doubtful accounts		2,500.00	
	\$	93,950.89	
Government of the Province of Alberta		189,147.75	
			283,098.64
Accrued interest		4,604.16	
Merchandise held for resale		112,338.26	
			1,030,621.23
Prepaid expenses:			
Supplies on hand	\$	84,853.49	
Unexpired insurance		17,904.58	
Legal retainer fee		375.00	
Unemployment insurance stamps		499.78	
			103,632.85
Other assets:			
Livestock inventory	\$	27,101.50	
Deposit, Workmen's Compensation Board		8,564.00	
			35,665.50
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,348,300.00	
Provincial debentures, direct and guaranteed		950,500.00	
Corporation debentures		3,600.00	
Corporation shares		23,286.93	
	\$	2,325,686.93	
Cash on hand and in bank		283,311.73	
Loans receivable		65,479.91	
Real estate, shares and sundry, nominal value		8.00	
Due from general account		32,996.90	
			2,707,483.47
			<u>\$ 21,524,322.84</u>

LIABILITIES

Capital and surplus:			
Capital provided by the Government of the Province of Alberta	\$	14,693,182.37	
Capital surplus		2,583,197.39	\$ 17,276,379.76
Loans payable:			
Government of the Province of Alberta re Students' Union building, see contra			254,173.90
Agreement for purchase of leasehold			4,617.68
Current:			
Treasury branch overdraft	\$	20,148.24	
Accounts payable		366,279.84	
Due to trust account		32,996.90	419,424.98
Deferred income:			
Fees	\$	10,148.90	
Other		2,773.33	12,922.23
Reserves:			
Federal aid funds unexpended	\$	231,894.14	
Library fees unexpended		29,734.55	
University Athletic Board fees unexpended		27,673.21	
Land exchange		17,933.61	
Workmen's Compensation Board		9,346.67	
Rink repairs		1,148.16	
Provincial Laboratory of Public Health, operating		65,026.83	
Operating, general		466,563.65	849,320.82
Trust:			
General endowment:			
Rockefeller Foundation	\$	500,000.00	
Scholarships:			
Escheated estates	\$	643,619.27	
General		417,141.29	1,060,760.56
Research			412,488.69
Students' grants and loans			100,608.03
General educational purposes			156,376.10
Pensions			57,868.95
Sundry:			
Administered by the University	\$	144,955.20	
Held on behalf of others		274,425.94	419,381.14
			2,707,483.47
			\$ 21,524,322.84

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
 FOR THE YEAR ENDED MARCH 31, 1957

Balance at at April 1, 1956		\$	91,084.84
Add:			
Surplus for the year ended March 31, 1957	\$	412,617.77	
Transfers from the Provincial Laboratory of Public Health operating reserve:			
Excess of expenditure over revenue		2,762.04	
Equipment purchased from income		99.00	
			<u>415,478.81</u>
		\$	506,563.65
Deduct:			
Transfer to general research trust account			<u>40,000.00</u>
Balance as at March 31, 1957	\$	466,563.65	<u><u><u>466,563.65</u></u></u>

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1957

REVENUE

Grants:

Province of Alberta:

General	\$ 2,167,000.00
Clinical research, University of Alberta Hospital, see contra	50,000.00
Debt charges, see contra	401,564.67

\$ 2,618,564.67

Government of Canada:

Federal aid	1,099,916.92
-------------------	--------------

\$ 3,718,481.59

Fees:

Tuition	\$ 964,189.29
Examination and special, net	22,128.32

986,317.61

Interest on Rockefeller foundation endowment	\$ 15,000.00
--	--------------

Deduct: Transferred to medical research trust	5,000.00
---	----------

10,000.00

Library fees, see contra	40,573.87
--------------------------------	-----------

University Athletic Board fees, see contra	19,729.05
--	-----------

Operating departments net revenue as per Schedule No. 2	18,381.81
---	-----------

\$ 4,793,483.93

EXPENDITURE

Instructional salaries and direct expenses, net, as per

Schedule No. 1	\$ 2,771,397.78
----------------------	-----------------

Maintenance of buildings	487,502.52
--------------------------------	------------

Debt charges, see contra	401,564.67
--------------------------------	------------

Library:

Salaries and expenses, Edmonton	\$ 132,179.58
---------------------------------------	---------------

Salaries and expenses, Calgary	10,361.99
--------------------------------------	-----------

Provision for library accessions, see contra	40,573.87
--	-----------

183,115.44

Administrative salaries and expenses, general	176,047.26
---	------------

Maintenance of grounds	53,009.82
------------------------------	-----------

Grant to University of Alberta Hospital re clinical research, see contra	50,000.00
---	-----------

Other expenses:

Student advisory services	\$ 25,931.60
---------------------------------	--------------

Provision for university Athletic Board expenses, see contra	19,729.05
---	-----------

Calendars, scientific and other publications	17,688.16
--	-----------

Provost's office	12,227.14
------------------------	-----------

Travelling expenses, instructional staff	9,793.79
--	----------

Alumni office	9,598.44
---------------------	----------

Greenhouse salaries and expenses, general	7,112.04
---	----------

Pension arrears	5,000.24
-----------------------	----------

Exchange	538.36
----------------	--------

First year committee	249.96
----------------------------	--------

107,868.78

Public service departments, net expenditure, as per

Schedule No. 3	143,428.36
----------------------	------------

Equipment purchased from income	6,931.53
---------------------------------------	----------

\$ 4,380,866.16

Surplus for the year ended March 31, 1957, transferred to
operating reserve

\$ 412,617.77

*To the Governors of the
University of Alberta*

Gentlemen:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1957.

A. STEWART,
President.

President's Report to Convocation

November 3, 1956

While the full flood of increased student numbers occasioned by the post-war rise in birth rates has not yet reached our doors, we are continuing to experience the advance waves brought about by migration into this Province and by the tendency for a higher proportion of young people to complete high school. Enrolment this fall increased by 376 over the number last year, bringing total registration to 4,610. This is close to the number of students reached when the university admitted two classes, in September and in January, during the peak of the veteran enrolment.

Registrations in the Faculty of Arts and Science now exceed 1,000. There are 992 students in Education and 930 in Engineering. These three Faculties account for 65 per cent of the total enrolment. It is not surprising that the rate of increase is relatively rapid in the B.Sc. programs in Arts and Science (15 per cent), Engineering (11 per cent), and Commerce (26 per cent). However, it is gratifying to find an increase of 20 per cent in enrolment in the programs leading to the Bachelor of Arts degree.

This is the first year in which students are registered for the degree of Bachelor of Physical Education; and at this Convocation the first class in Physiotherapy will receive their diplomas. Enrolment at the University of Alberta in Calgary increased some 10 per cent this year to a total of 378. Increases can also be reported in the Summer Session, 1956, and in the Evening Credit Program, 1956-57.

The Administration Building is under construction, and will free needed lecture room and office space in the Arts and Science Building in 1957. The increase in admissions to Engineering and to the Science Patterns in Arts and Science is creating pressure on laboratory space from which no relief can be expected until the completion of the Biological Science wing of the Agriculture Building. Tenders have been called on this addition, and it is hoped that the added accommodation will be available in the fall of 1958. However, to relieve congestion in 1957, it will be necessary to offer the first year of engineering in Calgary in the session 1957-58. The Board of Governors have submitted to the Government of the Province a program of construction which will be necessary to provide for continuously increasing numbers of students.

A number of additional appointments to the academic staff were made this year in anticipation of enlarged enrolments. We believe the new appointees will enable the University to maintain the quality of its instruction; but, in most fields, increasing competition for the limited number of qualified persons is evident among universities themselves and between Universities and others. There is little doubt that the problem of staffing will become more difficult.

President's Report to Convocation

May 17, 1957

The University of Alberta has held its convocations in a variety of places: Convocation Hall, McDougall Church, the Gymnasium, and the Edmonton Gardens. The graduands of 1957 are fortunate that the 47th convocation can be held in the newly completed auditorium. We are grateful that it has been placed on the University site. Its accessibility means that it will be used frequently for University functions; and it will add something to every occasion. We congratulate the architects, designers and craftsmen whose imagination and skill have created this place of beauty and utility, and commend the government of Alberta for the decision to mark the Jubilee of the Province by its construction. This magnificent building is a suitable monument to the achievements of the past. It is also a symbol of confidence in the future.

The University of Alberta has other reasons why it can look to the future with a new confidence. We have been heartened during the past year by tangible evidence of public recognition of our growing needs. It has taken almost fifty years to reach an enrolment of more than 4,000 students. There seems little doubt that registrations will double in the next ten years. There is a new tempo of change to which we are becoming adjusted.

The Administration Building, which will release space for instructional purposes in the Arts and Science Building, has made good progress, and will be occupied in late summer. Work on the basement of the Biological Science wing was begun in March. This early start ensures completion of new facilities for the Departments of Botany, Zoology, Entomology and Geology before classes open in the fall of 1958. Provision has been made in the capital estimates approved by the Province for planning of an extension to the Medical Building, and of new quarters for the Departments of Physics, Mathematics and Chemistry. Heavy enrolments in the sciences and technologies place particular demands on basic science departments, and rapidly changing techniques require constant additions to equipment, if students are to be in touch with the most recent developments. In anticipation of the removal of the Chemistry Department from the Medical Building and of the completion of the centre wing of that building, plans are underway for reorganization of space and facilities for the Health Sciences.

An agreement with the City of Calgary for the transfer of over 300 acres of land to the University has been approved by the Calgary City Council. An assurance has been received from the government of the province that funds will be made available in 1958 to commence the construction of facilities on the new campus. The province has also agreed to lend support to the Lethbridge Junior College, a community college affiliated for the first year University courses with the University of Alberta. In 1957, expanding programs of University work will be carried on at four centres in the Province: Edmonton, Calgary, Banff, and Lethbridge, not including other points served by the Evening Credit Program and the Department of Extension.

I should refer also to the projected Physical Education Building. The Government of the Province has assured the University that without interfering

with the construction of other buildings and to mark the Jubilee of the University in 1958, funds will be provided for a portion of the Physical Education Building, and students, alumni, and friends of the University are active in promoting ways and means whereby other units of the Building can be completed as rapidly as possible.

The understanding support of the Government of the Province for a program of construction in Edmonton and of extension of opportunities for higher education in Calgary and Lethbridge gives assurance that the University will be able to meet the growing demands on it.

We have been encouraged too by the evidence that in all parts of Canada there is an increasing recognition of the crisis with which the Universities are confronted. This is apparent in the enlarged Federal grants-in-aid which have enabled the University of Alberta and other universities to effect some much needed increases in salary schedules and to make new appointments required by expanding numbers. The Universities may also expect that they will be strengthened by the expenditure of funds put at the disposal of the Canada Council to support the arts, humanities, and social sciences.

Increasing support from industry has been another encouraging factor. During the year industry has, in a variety of ways, demonstrated its sense of responsibility for maintaining the flow of university graduates on which its own progress is dependent and its desire to become a partner in providing for expansion. Particular illustrations are too numerous and varied to mention here. However, this University has benefited from the support of industry in the securing of staff and of specialized equipment, in encouragement to research, and in assistance to students, particularly at the graduate level.

The University continues to plan for a balanced expansion in relation to the demands of students and the needs of the community. The University believes that increasing numbers completing high school will inevitably mean a greater variety of institutions offering programs of post-school education. Not all those who seek educational opportunities beyond the high schools will be served by the universities. In particular, it would seem that an increasingly complex technology will require an expansion of facilities for the training of skilled technicians. However, the increase in applications for admissions to universities, and the nature of the demand for university graduates, will necessitate an enlargement of the pyramid of university education by extension both at the base and at the top.

Provision for expansion of the base is being made through the new facilities being planned in Edmonton and Calgary, and by the affiliation of the Junior College at Lethbridge; as well as by the greater range of courses which can be offered as numbers increase. The University is also planning for expansion of its graduate programs, and reorganization of the School of Graduate Studies is in progress.

It is customary, and it is well, that at this time I should express our gratitude to the senior staff members of the staff who are retiring. After 37 years, Dr. O. J. Walker retires from his positions as Head of the Department of Chemistry and Director of the School of Graduate Studies. His former students who hold him in affectionate regard can be found all over the North American Continent. It was a source of gratification to them and to his colleagues that in the year of his retirement, Dr. Walker should be elected President of the Chemical Institute of Canada. Dr. E. H. Moss, Botany, and Dr. R. W. Collins, History, have both reached normal retirement age after

36 and 27 years, respectively. However, they will continue next year to give service to the University.

Growth of numbers, extension of plant, and the conduct of operations at different locations, add to the complexities of administration. Specifically, administrative responsibilities which in a smaller and simpler institution, can be carried by individual members of the teaching staff, along with their instructional duties, must be attached to full-time administrative officers. Something of value — the close association of teaching staff with the ancillary operations of the University — is lost in the process, but this is one of the penalties of size which the University of Alberta must begin to pay. Provision has been made in the current budget for appointments in the Administrative departments which reflect the transition from a small to a large institution.

I have already called your attention to the fact that the University will celebrate its 50th anniversary in 1958. Plans are being made for appropriate ceremonies. We will do more than mark the passage of 50 years. In a very real sense, the University is moving out of one historical period into another, and when the history of the University is written in the future, 1958 will be recognized as a turning-point. As we approach it, we have an opportunity to reflect on the accomplishments of the past, to give thanks for the bounties of the present, and to prepare ourselves for the needs of the future.

Table I—Academic Staff Numbers

Administrative Officers

President	1
Assistant to the President	1
Deans of Faculties	8
Directors of Schools	6
Director of the Calgary Branch	1
Assistant Director of the Calgary Branch	1
Director of the Summer Session	1
Provost	1
Assistant Provost, Calgary Branch	1
Director of Student Advisory Services	1
Assistants to the Director of Student Advisory Services	2
Dean of Women	1
Librarian	1
Superintendent of the University Hospital	1
Registrar	1
Associate Registrar	1
Assistant to the Registrar	1
Alumni Secretary	1
Bursar	1
Accountant	1
Assistant Accountant	1
Purchasing Agent	1
Wardens of Residence Halls	3

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Full-Time Teaching Staff

Professor	62
Associate Professors	95
Assistant Professors	82

Lecturers	20	
Instructors	5	
		264
<i>On Leave of Absence</i>		
Professors	4	
Associate Professors	4	
Assistant Professors	nil	
Lecturers	nil	
<i>Part-Time Teaching Staff</i>		
Professors	9	
Associate Professors	7	
Clinical Professors	13	
Assistant Professors	8	
Associate Clinical Professors	1	
Assistant Clinical Professors	21	
Lecturers	52	
Instructors	89	
Demonstrators in the Faculty of Education	190	
Demonstrators and student assistants	160	
		550
<i>Department of Extension</i>		
Director	1	
Assistants	2	
Agriculture Secretary	1	
Librarian	1	
		5
<i>Library</i>		
Librarian	1	
Assistant Librarian		
Assistants	15	
		16
<i>Industrial Laboratories</i>		
Director and Provincial Analyst	1	
Assistants	2	
		3
<i>Provincial Laboratory of Public Health</i>		
Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	
Provincial Pathologist	1	
Assistants	4	
		7
<i>Other Staff</i>		
Dietitians	3	
Radio Secretary	1	
		4
Total	887	
Less Duplicates	36	
Total Academic Staff	851	

Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

- Fenton Vincent MacHardy, B.E., from Sessional Lecturer to Associate Professor of Agricultural Engineering.
 Alexander Robinson Robblee, M.Sc., Ph.D., from Associate Professor to Professor of Poultry Husbandry.
 Roy Torgny Berg, B.Sc., M.S., Ph.D., from Assistant to Associate Professor of Animal Husbandry.

Faculty of Arts and Science

- Frank Donald Blackley, M.A., Ph.D. Assistant to the Dean, Faculty of Arts and Science.
 Leon Riegel, L.-ès-L., French Teaching Fellow.
 Eunice Robertson Hanna, B.Ed., M.A., Lecturer in English, Calgary.
 Wallace Dean Farnham, B.A., M.A., Ph.D., Assistant Professor of History.
 Joseph Frederick Lambert, B.A., M.S., Lecturer in Psychology.
 Ronald Allan Burwash, B.Sc., M.Sc., Ph.D., Assistant Professor of Geology.
 Henry Alexander Kaye Charlesworth, B.A., Ph.D., Assistant Professor of Geology.
 John Franklin Lerbekmo, B.A., B.Sc., Assistant Professor of Geology.
 Donald Drysdale Betts, M.Sc., Ph.D., Assistant Professor of Physics.
 Walter Dunham Gainer, B.Sc., M.S., Administrative Officer of the Department of Political Economy.
 Robert James Crawford, M.Sc., Ph.D., Assistant Professor of Chemistry.
 Ian Charles Sowton, M.A., Lecturer in English.
 Lynne E. H. Trainor, M.A., Ph.D., Assistant Professor of Physics.
 Erich von Richthofen, Dr. Phil., Associate Professor of French.
 Milton Frank Bauer, B.A., M.A., Assistant Professor of Economics.
 Maurice Rabotin, L.-ès-L., Lecturer in French.
 Richard Spence Taylor, B.A., M.S., Assistant Professor of Geology.
 Bohdan Rostyslaw Bociurkiw, M.A., Assistant Professor of Political Science.
 George O. Mackie, B.A., Lecturer in Zoology.
 Om Prakash Aggarwal, M.A., Ph.D., Visiting Associate Professor of Mathematics.
 Stephen Sorokan, B.Sc., Sessional Lecturer in Botany and Zoology, Calgary.
 Robert Lewis James, M.A., Ph.D., Assistant Professor of Sociology.
 George David Garland, B.A.Sc., M.A., Ph.D., from Assistant to Associate Professor of Geophysics.
 John Lewis Morrison, M.Sc., Ph.D., from Associate Professor to Professor of Chemistry.
 Erich Mueller, M.A., Ph.D., from Associate Professor to Professor of Modern Languages.
 Eric John Hanson, B.A., M.A., Ph.D., from Associate Professor to Professor of Economics.
 William Clare Wonders, B.A., M.A., Ph.D., from associate Professor to Professor of Geography.
 Charles Richard Stelck, M.Sc., Ph.D., from Associate Professor to Professor of Geology.
 Edward Hunter Gowan, B.A., D.Phil., from Associate Professor to Professor of Physics.
 Anthony Manuel Mardiros, M.A., M.Litt., from Associate Professor to Professor of Philosophy.

Robert George Hall Cormack, M.A., Ph.D., from Associate Professor to Professor of Botany.

Andrew Thomson Elder, B.A., M.A., Ph.D., from Assistant to Associate Professor of English.

Denis Rowley Godfrey, B.A., Ph.D., from Assistant to Associate Professor of English.

Arthur Bligh Crighton, Mus.B., from Assistant to Associate Professor of Music.

Wilfred Watson, B.A., M.A., Ph.D., from Assistant to Associate Professor of English.

Lynne E. H. Trainor, M.A., Ph.D., from Assistant to Associate Professor of Physics.

Arleigh Howard Laycock, B.A., M.A., from Lecturer to Assistant Professor of Geography.

John Winstanley Bilsland, M.A., from Lecturer to Assistant Professor of English.

Eunice Robertson Hanna, B.Ed., M.A., from Lecturer to Assistant Professor of English.

School of Commerce

Emmett Wallace, B.M.E., M.B.A., Associate Professor of Business Administration.

Boris Gardave, B.M.E., M.B.A., from Assistant to Associate Professor of Business Administration.

Faculty of Dentistry

Robert Valentine Blackmore, D.D.S., from Lecturer to Assistant Professor of Operative Dentistry.

Rowland Dalton Haryett, D.D.S., M.Sc., from Sessional Lecturer to Lecturer in Orthodontics and Physiology.

John Scott Little, B.Sc., D.D.S., from Sessional Lecturer to Lecturer in Operative Dentistry.

Donald Eugene Florence, D.D.S., L.D.S., from Sessional Lecturer to Lecturer in History of Dentistry and Oral Anatomy.

Faculty of Education

Arthur George Storey, B.A., M.Ed., Assistant Professor, Calgary.

Stanley Norris, B.Ed., M.A., Assistant Professor, Calgary.

Arthur W. Reeves, B.A., M.A., Ed.D., Professor of Educational Administration.

Joyce Wonnacott, Lecturer.

Bernal Ernest Walker, M.A., Ph.D., from Associate Professor to Professor.

William Eric Hodgson, B.A., B.Ed., M.A., from Associate Professor to Professor.

Harold Byron Barnett, A.R.C.T., B.A., M.A., from Assistant to Associate Professor.

Muriel Adeline Caldwell, B.Ed., from Assistant to Associate Professor.

Walter Worth, M.Ed., from Assistant to Associate Professor.

Dorothy Mary Lampard, M.A., from Assistant to Associate Professor.

Ethel Marguerite King, B.Ed. M.Ed., from Lecturer to Assistant Professor, Calgary.

Faculty of Engineering

Harold T. Beare, Sessional Lecturer in Civil Engineering.

Allan W. Peterson, M.Sc., Assistant Professor of Civil Engineering.

John Duby, B.Sc., M.A., D.Phil., Sessional Lecturer in Mechanical Engineering.

Kenneth Owen Anderson, B.Sc., Sessional Lecturer in Civil Engineering.

Siegfried Michael Breuning, Dip.Ing., Sc.D., Assistant Professor of Civil Engineering.

George Ford, M.Sc., Ph.D., from Associate Professor to Professor of Applied Mechanics.

Ralph Norman McManus, M.Sc., Ph.D., from Associate Professor to Professor of Civil Engineering.

Extension

Darroch Duncan Campbell, B.Com., B.A., from Associate Professor to Professor and Director.

Mary Isabel Dodds, B.Com., M.S., from Acting Extension Librarian to Extension Librarian.

William McKay, Supervisor of Petroleum Industry Training Service.

School of Household Economics

Hazel Brown Breslin, Sessional Lecturer.

E. Hazel McIntyre, B.Sc., M.S., from Associate Professor to Professor and Director.

Faculty of Law

David Cargill McDonald, B.A., B.C.L., Sessional Lecturer in Law.

Library

Denys Noden, M.A., B.L.S., from Library Assistant to Law Librarian.

Clara Joan Henshaw, B.A., B.L.S., Library Assistant.

Faculty of Medicine

John Kenneth Martin, M.R.C.S., L.R.C.P., M.B., B.S., D.C.H., M.R.C.P., Professor of Paediatrics.

Stanley Smith, M.B., Ch.B., M.D., M.R.C.P., D.P.M., Professor of Psychiatry.

Charles Neely Iland, M.B., Ch.B., Ph.D., Associate Professor of Bacteriology.

Michael Trevor Falls Carpendale, M.R.C.S., L.R.C.P., Lecturer in Rehabilitation Medicine.

David Lloyd Garrick Phillips, M.D., Sessional Instructor in Psychiatry.

Walter H. Cottle, B.A., M.A., Assistant Professor of Physiology.

Margaret Trotter Fish, B.Sc., M.D., Assistant professor of Anatomy.

Cleeve Russell Amies, M.R.C.S., L.R.C.P., M.B., B.S., D.T.M. & H., M.D., M.R.C.P., Professor and Head of Department of Preventive Medicine.

Astor Ralph Schrag, M.D., from Lecturer to Assistant Clinical Professor of Psychiatry.

Charles Frederick Hyndman, M.D., C.M., from Instructor to Lecturer in Radiology.

Marshall Mallett, M.D., C.M., from Instructor to Lecturer in Radiology.

Gordon Lothead Wilson, M.D., from Instructor to Lecturer in Orthopaedic Surgery.

Rupert McConnell Clare, M.D., from Instructor to Lecturer in Radiology.

Thomas John Speakman, M.D., M.Sc., from Lecturer to Assistant Clinical Professor of Neurosurgery.

Guy Kent Morton, M.D., from Assistant Clinical Professor to Clinical Professor of Neurosurgery.

Robert James Johnston, B.Sc., M.D., from Lecturer to Assistant Clinical Professor of Surgery.

Robert Alexander Macbeth, B.A., M.D., M.Sc., from Lecturer to Assistant Clinical Professor of Surgery.

Kathleen Anderson Swallow, B.Sc., M.D., from Instructor to Lecturer in Paediatrics.

Richard Poirier, B.A., M.D., from Instructor to Lecturer in Paediatrics.

Donald Forbes Cameron, M.B.E., m.i.d., B.A., M.D., from Instructor to Lecturer in Anaesthesia.

Edward Alexander Gain, B.A., M.D., from Assistant Clinical Professor to Clinical Professor of Anaesthesia.

Maxwell Mordcai Cantor, B.Sc., M.D., from Lecturer to Assistant Clinical Professor of Pathology.

Charles William Nash, B.Sc., M.Sc., Ph.D., from Associate Professor to Professor of Pharmacology.

Lawrence Bruce Smillie, B.Sc., M.A., Ph.D., from Assistant to Associate Professor of Biochemistry.

Mary Stapleton Spencer, B.A., M.A., Ph.D., from Assistant to Associate Professor of Biochemistry.

School of Nursing

Ruth Elizabeth McClure, B.Sc., M.P.H., R.N., Assistant Professor of Public Health Nursing.

Kathleen McKnight, Sessional Lecturer in Nursing.

Faculty of Pharmacy

Arthur James Anderson, B.Sc., M.S., from Assistant to Associate Professor.

School of Physical Education

Stephen Mendryk, B.Ed. in Physical Education, from Lecturer to Assistant Professor.

School of Physiotherapy

John Richard Fowler, M.D., from Associate Professor to Professor.

Nancy Rendell, Dip.P.T., from Lecturer to Assistant Professor.

Administration

Lynn Parkes Morgan, B.A., Assistant to the Registrar.

Table III—Leave of Absence

Reuben Benjaiman Sandin, M.A., Ph.D., F.R.C.S., Professor of Chemistry.

Bertha Morse Newton, B.Sc., in Ed., A.M., Associate Professor of Education, Calgary.

William George Corns, M.Sc., Ph.D., Professor of Crop Ecology.

Kenneth Bateman Newbound, M.Sc., Ph.D. Associate Professor of Physics.

Gordon Orville Bain, B.Sc., M.D., Lecturer in Pathology

John Dawson Newton, B.S.A., Ph.D., Professor of Soil Science.

Andrew Cairns, M.D., Instructor in Clinical Medicine.

Alan Brock McCarten, M.D., F.R.C.S., Assistant Clinical Professor of Surgery.

Ralph Norman McManus, M.Sc., Ph.D., Associate Professor of Civil Engineering.

Theophilus George Finn, B.A., A.M., Professor of Elementary Education, Calgary.

Fenton Vincent MacHardy, B.E., Associate Professor of Agricultural Engineering.

Table IV—Retirements

Mabel Patrick, B.A., M.A., Professor of Household Economics.

Lawrence Howard Nichols, B.A., M.A., F.R.Met.S., Professor of Physics.

William Rowan, M.Sc., D.Sc., Professor of Zoology.

Table V—Resignations

George William Reed, B.A., LL.B., Associate Professor of Law.

Donald MacKenzie Schurman, M.A., Lecturer in History.

Lawrence Clinton Walker, B.A., M.S., Ph.D., Lecturer in Social Psychology.

Baunita Young, B.Sc., Dietitian, University Residences.

Leona Thomson, B.A., B.L.S., Library Assistant.

Velma Irene Rust, B.Sc., M.Ed., Assistant Professor of Education.

Leola Ford, B.A., M.S., Ph.D., Lecturer in Education, Calgary.

William R. Blain, B.A., Lecturer in Business Administration.

Donald Gladstone Crosby, B.Sc., B.A., Ph.D., Sessional Instructor in Geology, Calgary.

Jean Clyne Nelson, M.B., Ch.B., Sessional Instructor in Paediatrics.

Charles Neely Iland, M.B., Ch.B., Ph.D., Associate Professor of Bacteriology.

Stanley Smith, M.B., Ch.B., M.D., M.R.C.P., D.P.M., Professor of Psychiatry.

Anthony John Michael Griffiths, M.R.C.P., L.R.C.P., D.M.R.D., R.C.P. & S., Instructor in Radiology.

William Orobko, B.Sc., D.D.S., Associate Professor of Pedodontics.

Helen Eileen Marie Penhale, B.Sc., M.A., R.N., Professor and Director of the School of Nursing.

Doris Louise White, B.Ed., Assistant Professor of Physical Education.

John Derrick Godfrey, B.Sc., M.S., Lecturer in Geology.

Henry Bertram Mayo, M.A., D.Phil., Professor of Political Science.

Table VI—Gifts

From Canadian Industries Limited, \$1,500 for research into the effect of polythene on asphalt.

From the Consolidated Mining and Smelting Company of Canada Ltd., \$2,000 in connection with fertilizer and nutrition studies.

From the graduating class of 1955-56, \$110.

From Imperial Oil Limited, \$1,000 for muskeg research.

From Texaco Exploration Co., one Ford seismic truck.

From the British American Oil Co., one set of portable seismic equipment.

From anonymous donor, \$1,000 to assist graduate training in Ophthalmology.

From the Searle Grain Company, \$250 for crop testing project in Plant Science.

From the Barley Improvement Institute, \$4,000 to Plant Science.

From Dr. G. B. Sanford, for the Lincoln collection in the Library, a copy of the rare 1864 edition of Raymond's "The Life, Public Services and State Papers of Abraham Lincoln."

From the International Nickel Company of Canada, \$20,000 and \$20,000 being the first two instalments of a sum of \$100,000 payable over five years.

From anonymous donor, \$50 to assist graduate training in Ophthalmology.

From anonymous donor, \$250 for a scholarship in Dentistry.

From the Canadian Foundation for the Advancement of Pharmacy, \$1,200 for teaching fellowships in Pharmacy.

From the Alberta Teachers' Association, an electric typewriter for the Banff School of Fine Arts.

From the Kellogg Foundation, \$5,700 for the program in Educational Administration.

From Consolidated Mining and Smelting, \$2,000 for research in Soil Science.

From the Grand Chapter of Manitoba, Order of the Eastern Star, \$250 for student assistance.

From the Alberta Department of Agriculture, \$10,000 being part of the grant for the Soil and Feed Testing Laboratory.

From the Department of Mines and Technical Surveys, \$2,950 for geological research.

To the Banff School Permanent Art Collection: \$100 from Mr. Eric L. Harvie; \$100 from Mr. D. S. Harvie.

From Line Elevators Farm Service, \$1,000 for research in Plant Science.

From Eldorado Mining and Refining, \$15,100 for uranium research.

From the DuPont Company of Canada, \$1,700 for the DuPont Scholarship in Education.

From the Toronto General Trust Corporation, \$10 for the Allan McKay Heart Research Fund.

From the Edmonton District Planning Commission, \$500 in support of Dr. E. J. Hanson's studies of the economic base of the Edmonton region.

From Mr. S. Bruce Smith, Q.C., Mr. Clarence S. Campbell, Q.C., and Mr. George Reed, gifts of book collections for the Law Library.

From the Alumni Association, a gold medal in Physical Education.

From Mrs. McCowan, the "Dan McCowan Library" to the Banff School of Fine Arts.

From Donald and Mary Harvie, collection of paintings by the Group of Seven to the Banff School of Fine Arts.

From the Maple Leaf Milling Company, \$500 grant for soft wheat research in the Department of Plant Science.

From the Glenbow Foundation, \$3,000 grant for experimental alfalfa seed project in the Department of Plant Science.

From the Shell Oil Company of Canada Limited, \$500 grant-in-aid.

From International Nickel Company of Canada, \$1,000 grant-in-aid.

From Ellison Milling and Elevator Company Limited, \$250 grant to the Department of Plant Science.

From Strong-Scott Ltd., \$200 to the Banff Foundation.

From the Dental Company of Canada, a rotary operating stool.

From General Motors of Canada Limited, \$1,000 grant-in-aid.

From Imperial Oil Limited, \$3,000 grant-in-aid.

From Mrs. Stuart McCara an Honorary LL.D. gown and hood.

From Dr. C. R. Stelck, \$1,500 for purchase of certain books for the Library.

From the United Grain Growers, \$500 grant for oil seed research in Plant Science.

From the estate of the late Senator William Asbury Buchanan, \$3,000, the income to be used for scholarships for students from the Lethbridge district.

From the Prairie Roadbuilders Section of the Canadian Construction Association, \$750 to the Beattie-Ramsay Memorial Trust Fund for Highway research.

From Mr. and Mrs. A. R. Craig, \$250 for medical research.

From the Merrill Muttart Foundation, \$6,000 to support the Chair in Medical Research.

From Consolidated Concrete Industries Limited, \$500 for the Concrete Research Fund.

From Mr. F. J. Cameron, a Simpsons Limited Debenture in the amount of \$1,000 to create a fund to be known as the Dr. S. S. Spaner Bursary.

From the Alberta Cooperative Wholesale Limited, \$500 for fertilizer work in Soil Science.

From United Grain Growers Limited, \$400 for poultry nutrition research.

From Trans Mountain Oil Pipe Line Company, \$10,000.

From Mr. N. D. McDermid, \$500.

From the American Dental Trade Association, \$350 annually for loans for fourth year Dental students.

From the Calgary Citizenship Council, \$500 for bursaries for New Canadians.

From Imperial Oil Limited, \$13,000 being the second payment on the grant for the study being made by Dr. E. J. Hanson.

From the Land and Forest Conservation and Utilization Committee, Province of Alberta, \$5,000 grant to Soils and Feed Testing Laboratory.

From the Drumheller District Agricultural Society, \$50 for a prize.

From the International Nickel Company of Canada, \$7,500 for equipment and \$4,500 for salary for research assistant for project under Dr. J. G. Parr.

From Mrs. Naylor, antique decorated desk.

From Shaw Dental Laboratory (Alberta) Limited \$250 for student assistance in the Faculty of Dentistry.

From the Edmonton Hospital Pharmacists Association, \$25 for the purchase of Pharmacy books for the Library.

From the Calgary Power Company, membership in the International Conference on Large Electric Systems.

From the Alberta Seed Growers' Cooperative Limited, \$400 grant for nitrogen fertilizer research.

From Mr. K. M. Johnston, \$20 being a contribution for scholarship purposes.

From Mr. August Grohs, \$500 for assisting in the establishment of a library for the Lethbridge Junior College.

From Shell Oil Company of Canada Limited, \$600 being an additional grant.

From Dr. J. S. Stewart, \$100 for dental research.

From the Dentistry Class of 1932, \$175 to the Faculty of Dentistry.

From the Alberta Dairymen's Association, \$500 for research in dairying.

From the Federal Republic of Germany, "Musica Nova", a collection of fine contemporary music of Germany on six long-playing records.

From the Geological Society of America, \$6,500 for technical assistance for research in the Department of Geology on nuclear geochronology.

From the Men's Residence House Committee, a picture "The Ranch Hands" by J. B. Taylor, now in the front rotunda of Athabasca Hall.

From the Edmonton Civic Employees, \$5,500 for fellowships to the McEachern Laboratory on cancer research.

From Mr. Hal Nutt, \$100 to the Banff Foundation.

From the 1957 Graduating Class, \$110.

From the Robin Hood Flour Mills, \$500 for soft wheat research.

From the Carnegie Corporation of New York, \$11,550 for development of educational research.

From 17 members of the 4th Annual Life Insurance Marketing Institute, \$1,625 to the Banff Foundation.

From Dr. D. J. Moffat, \$20 to the Medical Class of 1941 Loan Fund.
 From Taylor, Pearson and Carson, \$500.
 From North West Mill and Feed, \$150.
 From Dower Bros. Limited, \$500.
 From Gormans Ltd., \$150.
 From Swanson Lumber Co. Ltd., \$500.
 From the Canadian Cancer Society, Alberta Division, \$17,000.
 From the Defence Research Board, \$9,800.
 To the Banff School of Fine Arts Scholarship Fund, \$6,010.
 From the National Research Council, \$107,253.03.
 From the National Cancer Institute of Canada, \$13,311.51.
 From the Dominion Department of Agriculture, \$21,400.

Table VII—New Scholarships and Prizes

From the Canadian Legion, a prize of \$400, to a student in Physics or Electrical Engineering.

From the International Nickel Company of Canada, two scholarships of tuition and fees plus \$300 per year for four years.

From Dow Chemical of Canada, Limited, \$500, to a student in Chemical Engineering.

From the Canadian Society of Exploration Geophysicists, \$250 scholarship to a student in Geophysics.

From Riddell, Stead, Graham and Hutchinson, a scholarship for tuition fees in final year Commerce.

From the American Society for Metals Foundation, a \$400 scholarship to a student who has completed the second year in Metallurgical Engineering.

From the Canadian Mathematical Congress, the following matriculation scholarships tenable at Canadian Universities:

The Haddin, Davis & Brown Limited Scholarship, \$250.

The Samuel S. Guttman Family Scholarship, \$350.

The Foundation for the Advancement of Scientific Studies Scholarships, two at \$350.

The Friends of the Canadian Mathematical Congress Scholarship, one at \$350 and one at \$150.

From the L. T. Melton Real Estate, a scholarship of \$350.

From the Pan American Petroleum Corporation, a graduate fellowship of \$1,200 plus tuition and fees in Petroleum Engineering.

From the Canadian Educational Association, the following fellowships to graduate students in Educational Administration:

The Imperial Oil Company Ltd. Fellowship, \$2,400.

The Canadian Text Book Publishers Fellowship, \$2,400.

The International Nickel Company of Canada Limited Fellowship, \$2,400.

From the W. K. Kellogg Foundation, nine fellowships valued at \$2,400 each in Educational Administration.

From the Carnegie Corporation, three fellowships, two at \$2,500, and one at \$1,500, in Educational Research.

From the estate of the late Senator William Asbury Buchanan, a bursary of \$100 for a student from the Lethbridge district.

From Smalley's Radio Ltd., two bursaries of \$500 to students in Honors Physics or Engineering Physics.

From the Edmonton Branch of the Canadian Association for Health, Physical Education and Recreation, two bursaries of \$100 each.

From the Students' Council, University of Alberta, \$1,000 for bursaries for Hungarian refugee students.

From the Schlumberger Well Surveying Corporation, \$500 scholarship.

From the Government of Alberta, Recreation scholarships valued at \$250 to \$400.

From Canadian Industries Limited, Wildlife Management Fellowships of \$1,200.

From the Canadian Women's Theatre Guild, the Elizabeth Sterling Haynes Scholarships, two at \$150.

From Mr. J. H. Shocter, \$50 prize to third year law student.

From the Kinette Club of Edmonton, a bursary of \$350 to a graduate to take training in Social Work.

From the International Nickel Co., one matriculation scholarship of \$300 plus fees to an outstanding student entering first year Engineering.

The Elizabeth and Wesley Haynes Prize of \$50.

The Meta M. Hodge Memorial Prize of \$25 to be awarded twice a year to an outstanding student in the intermediate year of Nursing.

The Proctor and Gamble Bursaries of \$1,500 and \$500.

The Geophysical Service International Bursary of \$350 in geology or physics.

Table VIII—Staff Publications

Department of Accounting

Goodale, D., "Professional Ethics", Can. Chartered Accountant, June 1956.

Campbell, J. D., *see Political Economy*.

Faculty of Agriculture—Joint Publications

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Table IX—Student Registration

TOTAL REGISTRATION																	
Full Session, Summer Session, Evening Division and Short Courses																	
1st Year		2nd Year		3rd Year		4th Year		5th Year		Not Stated		Males		Females		TOTAL	
56-57	F.	56-57	M.	56-57	F.	56-57	M.	56-57	F.	56-57	M.	56-57	M.	56-57	F.	55-56	56-57
57	61	70	51	50	42	3	6	...	...	...	...	...	171	180	140	160	340
155	35	150	24	98	19	14	3	...	...	...	...	...	355	417	78	81	498
1	...	...	...	...	...	...	...	...	...	...	...	...	4	1	...	...	1
...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
34	2	23	2	...	...	...	...	...	...	...	...	...	48	57	3	4	51
44	1	...	4	...	1	...	2	...	...	...	...	...	32	44	1	1	33
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	7	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	3
291	99	243	81	148	62	17	11	...	...	3	...	...	611	702	230	253	841
...	...	...	...	...	...	...	...	...	...	...	...	...	28	17	16	13	44
...	...	...	...	...	...	...	...	...	...	...	...	...	18	31	15	16	33
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	7	...	...	...	...	...	...	...	...	...	...	...	10	12	7	7	17
31	11	...	...	...	...	...	...	...	...	...	...	...	23	31	2	11	25
8	2	...	...	...	...	...	...	...	...	...	...	...	5	8	1	2	6
4	...	...	...	...	...	...	...	...	...	...	...	...	7	4	...	...	7
...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
56	20	...	...	...	...	...	...	...	...	...	...	...	46	56	10	20	56
...	...	...	...	...	...	...	...	...	...	...	...	...	6	7	3	4	9
...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	1
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[illegible]

Table IX—Student Registration—continued

	1st Year 56-57		2nd Year 56-57		3rd Year 56-57		4th Year 56-57		5th Year 56-57		Not Stated 56-57		Males 55-56 56-57		Females 55-56 56-57		TOTAL 55-56 56-57	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Calgary Full-time	34	153	27	29	7	1	4	3	...	...	...	...	85	72	163	186	248	258
Part-time—regular.....	...	...	...	...	...	...	...	...	...	...	...	...	22	15	26	37	48	52
Part-time—Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	13	17	25	21	38	38
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	13	6	15	11	28	17
Part-time—Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	9	...	20
Part-time—Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	8	...	19
Part-time—Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	18	12	4	5	22	17
Vegreville	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	14	...	27
Camrose	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Evening.....	...	...	...	...	...	...	...	...	...	...	...	...	341	306	616	660	957	966
Educ. Full-time	124	439	81	136	36	41	52	39	...	...	13	5	...	...	...	...	...	...
6. Engineering	54	...	99	...	54	...	57	...	...	...	...	...	250	264	...	...	250	264
Civil.....	61	...	66	...	50	...	30	...	...	...	...	...	109	207	1	...	191	207
Chemical.....	46	...	42	...	1	...	22	...	...	...	...	...	132	110	...	...	132	110
Electrical.....	1	...	8	1	47	...	10	...	...	...	...	...	34	66	...	1	67	67
Mining.....	26	...	16	...	11	...	9	...	...	...	...	...	56	62	...	...	56	62
Petroleum.....	5	...	...	...	8	...	...	...	...	...	...	...	1	13	...	...	1	13
Eng. Physics.....	2	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	3	2
Eng. Geology.....	173	...	...	...	...	...	...	...	...	...	...	...	141	173	...	...	141	173
Not Specified.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Sc. in Metallurgical Engineering.....	...	...	...	...	3	...	1	...	...	...	...	...	...	4	...	...	...	4
Full-time	368	...	234	1	171	...	128	...	...	...	...	...	807	901	1	1	808	902
Part-time.....	...	...	...	...	...	...	...	...	...	...	...	...	7	3	...	...	7	3
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Part-time.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Household Economics	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Sc. H.Ec.....	26	...	27	...	25	...	...	...	...	...	...	...	...	...	72	78	72	78
B.H.Ec.....	1	...	1	...	3	...	...	...	...	...	...	...	...	5	5	5	5	5
Part-time.....	27	...	28	...	28	...	...	...	...	...	...	...	...	77	83	77	83	83

8. Law	28	23	24	...	...	...	...	...	...	83	75	3	2	86	77
9. Medicine—M.D.	58	1	2	44	2	...	45	4	...	206	202	10	9	216	211
B.Sc. (in Med.)	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1
10. Nursing—Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Sc.	31	21	29	...	...	...	16	2	...	...	113	99	113	99	...
Diploma	104	76	1	90	...	...	...	...	...	...	1	238	270	238	271
Dip. in Pub. Health	...	...	...	...	...	...	...	...	...	...	...	8	13	8	13
Dip. in T. & Sup.	...	...	...	...	...	...	...	...	...	...	...	11	11	11	11
Full-time—Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Part-time	135	97	1	119	...	...	16	2	...	...	1	370	393	370	394
Edmonton—Evening	...	...	...	...	...	...	...	...	...	...	...	...	6	...	6
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Sc. in Nursing	1	9	1	...	...	...	1	...	...	...	...	14	12	14	12
Part-time	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1
Nursing—Full-time	...	...	...	...	...	...	17	2	...	...	1	384	405	384	406
11. Pharmacy	30	14	14	29	9	...	...	...	...	86	85	39	37	125	122
Part-time	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
12. Physiotherapy	...	21	17	...	...	...	...	...	...	...	...	35	38	35	38
13. Physical Education	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.P.E.	18	10	7	...	...	...	...	...	...	...	28	17	...	...	45
Part-time—Evening	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Calgary—B.P.E.	...	1	...	...	...	...	...	...	...	...	...	1	1	...	1
Part-time	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
14. Graduate Studies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A.	...	...	...	...	...	...	...	...	...	27	24	11	10	38	34
M.Sc. (Arts)	...	...	...	...	...	...	...	...	...	31	20	...	1	31	21
M.Sc. (Agric.)	...	...	...	...	...	...	...	...	...	15	16	1	1	16	17
M.Sc. (Engin.)	...	...	...	...	...	...	...	...	...	15	23	...	...	15	23
M.Sc. (Pharm.)	...	...	...	...	...	...	...	...	...	3	2	...	1	3	3
M.Sc. (Medicine)	...	...	...	...	...	...	...	...	...	5	7	...	...	5	7
M.Ed.	...	...	...	...	...	...	...	...	...	38	36	8	11	46	47
Ph.D.	...	...	...	...	...	...	...	...	...	11	15	1	1	12	15
Provisional Grad.	...	...	...	...	...	...	...	...	...	17	15	1	1	18	16
Special Grad.	...	...	...	...	...	...	...	...	...	37	37	...	1	38	38
...	...	...	...	...	...	...	...	...	...	33	...	6	...	39	...
...	...	...	...	...	...	...	...	...	...	195	195	28	26	223	221

[illegible]

Table X—Distribution of Students According to Age and Sex

Age	Male	Female	Total
15	1	....	1
16	10	19	29
17	162	209	371
18	401	459	860
19	462	353	815
20	439	223	662
21	400	136	536
22	258	66	324
23	215	36	251
24	161	31	192
25	107	25	132
26	93	19	112
27	72	15	87
28	67	17	84
29	40	11	51
30	46	13	59
31	37	13	50
32	28	7	35
33	18	12	30
34	15	14	29
35	20	10	30
36	18	9	27
37	15	4	19
38	12	11	23
39	15	8	23
40	13	9	22
41	11	13	24
42	13	14	27
43	8	12	20
44	12	12	24
45	9	17	26
46	7	10	17
47	7	7	14
48	12	13	25
49	5	11	16
50	2	9	11
51	3	6	9
52	3	7	10
53	....	9	9
54	5	3	8
55	1	2	3
56	2	3	5
57	....	1	1
58	....	2	2
59	1	1	2
60	1	1	2
61	1	....	1
62	....	1	1
64	....	2	2
	<u>3228</u>	<u>1885</u>	<u>5113</u>

Table XI—Classification of Students According to Religious Denomination

Anglican	621
Baptist	186
Christian Science	8
Church of Christ	12
Church of Nazarene	12
Greek Catholic	90
Greek Orthodox	257
Hebrew	94
Latter Day Saint (Mormon)	102
Lutheran	283
Methodist	4
Presbyterian	150
Protestant (church not specified)	61
Roman Catholic	799
Russian Orthodox	1
Seventh Day Adventist	9
Ukrainian Orthodox	30
United Church	2001
Others	258
Not specified	135
	5113

Table XII—Distribution of Students According to Sex and Marital Status

	Male	Female	Total
Single	2560	1689	4249
Married	666	157	823
Divorced		9	9
Widowed	2	30	32
	3228	1885	5113

**Table XIII—Distribution of Students According to Birthplace of Father
Session 1956-57**

A. British Empire—Commonwealth:

(a) Canada:	
Alberta: Edmonton	117
Calgary	55
Lethbridge	16
Medicine Hat	25
Red Deer	17
Vegreville	21
Wetaskiwin	15
Camrose	8
Cardston	15
Grande Prairie	1
On or North of Twp. 38	256
South of Twp. 38	139
Not Specified	77

 762

Canada—not otherwise specified	168	
Newfoundland	8	
Nova Scotia	81	
Prince Edward Island	28	
New Brunswick	39	
Quebec	108	
Ontario	552	
Manitoba	235	
Saskatchewan	168	
British Columbia	45	
Yukon and N.W.T.	3	
	—	2197
(b) <i>Other parts of British Empire—Commonwealth</i>		
British Isles (including Eire)	806	
Dominions (S. Africa, New Zealand, Australia)	5	
All other British colonies, dependencies and members of the Commonwealth (including India, Pakistan, Ceylon, Rhodesia, Kenya, Guiana, etc.	32	
	—	843
B. <i>Countries Outside British Empire—Commonwealth:</i>		
United States of America	572	
Poland and Czechoslovakia	276	
Russia and Ukraine	364	
Balkan States (Yugoslavia, Roumania, Bulgaria, Albania, Greece, Turkey)	62	
Scandinavian States (Sweden, Norway, Denmark (Ice- land, Finland)	165	
Germany, Austria (including Austria-Hungary)	247	
France	20	
Hungary	33	
China and Japan	75	
Holland	52	
Others	99	
	—	1965
C. Information not specified		108
		—
	TOTAL	5113
		—

**Table XIV—Distribution of Students According to Father's Occupation
Session 1956-57**

<i>Occupational Classification and Occupation</i>	<i>Numbers</i>	<i>Totals</i>
<i>Professional</i>		
Accountants, Auditors	66	
Dentists	22	
Doctors	59	
Lawyers	50	
Ministers	53	
Pharmacists, Druggists	24	
Professors, teachers	179	
Engineers and Land Surveyors	58	
Others	24	
	—	535

Business and Finance

Garage, service station managers and employees	88
Grain, oil, implement agents, livestock dealers	86
Hotelkeepers, restaurateurs and employees (including Motels)	76
Insurance, real estate, bond salesmen, stockbrokers	92
Retail Merchants, grocers, shopkeepers, clerks	257
Bank employees	36
Wholesale managers, Clerks, Warehousemen	78
Salesmen, Commercial Travellers, Manufacturers' Agents	103
Advertising	3
Others	117
	936

Industry

Assayers, Industrial Chemists	3
Bakers, brewers	16
Dairy and creamery owners and employees	23
Farmers, ranchers, dairy farmers, poultry farmers, and market gardeners	1226
Contractors, builders	72
Lumbermen, building supplies etc.	35
Manufacturers, factory foremen, employees	71
Oil and Coal industry, managers and employees	138
Meat packing managers, employees	28
Transportation owners, managers and employees	236
Others	22
	1870

Artisans and Skilled Tradesmen

Barbers, hair dressers	23
Carpenters, masons, bricklayers, plasterers, floor finishers	91
Electricians, radio repair etc.	25
Mechanics, locksmiths, gunsmiths etc.	52
Metal workers, welders, tinsmiths, blacksmiths	37
Machinists, lathe operators	17
Painters and decorators	26
Plumbers, gas and steam-fitters	14
Tailors, pressers, cleaners and dyers, shoemakers	26
Laborers, watchmen	51
Others	87
	449

Government Service

Civic or Municipal Employees	60
Provincial Government Employees	101
Dominion Government Employees	79
Armed Services	18
Members of Provincial and Dominion Parliament	5
Judges and Magistrates	4

	267
Retired	396
Deceased	556
Not Specified	104

5113

Table XV—Distribution of First Year Students not Previously in Attendance
According to Course and Home Address (excluding Evening Division)

ATTENDING EDMONTON

COURSE	Total																			
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Common-wealth	U.S.A.	Other Countries	Not specified
B.A.	61	3	5	1	4	1	1	1	1	1	15	9	9	1	1	6	2	1	1	101
B.Sc.	66	9	1	1	9	1	1	2	1	1	38	34	34	1	1	9	1	1	1	177
B.A., LL.B.	18	1	1	1	1	1	1	1	1	1	3	6	6	1	1	1	1	1	1	34
Pre-dent	8	1	1	1	1	1	1	1	1	1	4	10	4	1	1	18	1	1	1	43
B.Sc. in Agriculture	3	2	1	1	1	1	1	1	1	1	6	4	4	1	1	3	1	1	1	18
B.Com.	30	2	1	1	1	1	1	2	1	3	53	17	7	1	1	1	1	1	1	64
B.Ed. (Gen.) 4 year course	27	1	1	1	2	5	1	1	1	3	179	20	20	1	1	8	1	1	1	103
Junior E.	32	1	3	1	1	1	1	2	1	1	3	2	2	1	1	5	1	1	1	256
B.P.E.	9	1	1	1	1	1	1	2	1	1	12	10	6	1	1	1	1	1	1	23
B.Sc. in Civil Engineering	10	6	3	3	1	1	1	1	1	1	19	6	8	1	1	4	1	1	1	47
B.Sc. in Chemical Engineering	15	6	2	1	1	1	1	1	1	1	19	6	8	1	1	4	1	1	1	55
B.Sc. in Electrical Engineering	17	2	1	1	2	1	1	1	1	1	6	8	4	1	1	2	1	1	1	39
B.Sc. in Petroleum Engineering	5	1	1	1	1	1	1	1	1	1	6	4	4	1	1	2	1	1	1	19
B.Sc. in Engineering Physics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5
B.Sc. in Engineering Geology	54	30	3	1	1	2	1	1	1	2	36	27	27	1	1	3	3	3	1	2
Not specified	8	5	2	1	1	1	2	1	1	1	6	1	1	1	1	3	3	1	1	161
B.Sc. H.Ec.	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
B.H.Ec.	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diploma in Physiotherapy	14	3	1	1	1	1	1	1	1	1	2	2	2	1	1	7	1	1	1	20
B.Sc. in Nursing	34	3	3	1	1	1	1	1	2	1	30	8	8	1	1	1	1	1	1	30
Diploma in Nursing	12	5	3	1	1	1	1	1	1	1	14	4	4	1	1	1	1	1	1	92
B.Sc. in Pharmacy	12	5	3	1	1	1	1	1	1	1	14	4	4	1	1	1	1	1	1	37
	429	87	23	10	25	8	4	11	4	10	461	181	181	1	7	84	3	2	4	1353

ATTENDING CALGARY

COURSE	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other countries	Not specified	Total
B.A.	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
B.Sc.	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38
B.A., B.Com.	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
B.A., LL.B.	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Pre-dent	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13
B.Com.	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
B.Ed. (General 4 year)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
B.Ed. in Industrial Arts	31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	148
Jr. E.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B.P.E.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B.Sc. in Nursing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	113	12	4	3	3	3	3	3	2	2	17	106	5	2	2	3	2	2	1	1	265

Table XVI—Distribution of Daytime Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY	Edmonton																			Total
	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others on or North of twp. 38	Others South of twp. 38	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Columbia	U.S.A.	Other countries	Not specified			
Arts and Science	433	96	23	7	25	4	5	11	1	7	167	120	10	60	9	4	2	1	985	
Agriculture	20	6	1	1	1	1	...	...	1	1	40	35	...	2	1	...	2	...	110	
Commerce	71	17	1	2	4	1	...	2	...	1	26	18	1	6	...	...	...	...	150	
Dentistry	27	9	1	...	...	...	...	...	...	...	15	8	...	51	2	3	1	...	117	
Education	175	23	12	12	9	8	4	7	2	8	349	93	2	21	...	...	...	...	726	
Physical Education	16	...	...	...	...	...	...	3	3	...	8	6	...	9	...	...	...	...	45	
Engineering	303	118	26	11	13	1	3	7	1	7	223	134	5	42	4	1	1	2	905	
Engineering	25	8	3	1	1	1	1	...	...	...	30	9	...	6	...	...	...	...	85	
Household Economics	47	14	3	1	...	1	...	...	...	...	5	4	...	1	...	...	...	...	77	
Law	10	10	...	...	...	...	...	...	...	...	3	4	1	10	...	4	...	...	38	
Physiotherapy	101	22	4	2	2	2	3	...	1	1	39	21	3	10	...	...	...	...	212	
Medicine	115	22	8	1	8	1	3	8	2	5	125	50	4	42	...	...	...	...	394	
Nursing	44	11	3	...	5	2	1	1	1	2	40	13	...	1	...	...	...	...	123	
Pharmacy	98	16	4	1	1	2	1	1	...	...	30	16	3	16	10	1	5	...	205	
Graduate Studies	10	1	...	...	1	...	...	...	...	...	3	3	1	2	1	...	...	...	16	
B.D.	44	2	1	...	...	...	1	...	...	...	3	2	...	1	...	...	...	...	57	
Special Students	1539	375	90	41	71	27	19	40	8	31	1106	594	39	279	27	13	11	4	4245	

ATTENDING CALCARY

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others—on or North of Twp. 38.	Others South of Twp. 38	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other countries	Not specified	Totals
Arts and Science	69	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	87
Commerce	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Education	126	11	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	310
Physical Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Engineering	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nursing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13
Special	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Totals	4	228	12	6	5	5	5	5	3	26	142	3	7	2	1	1	1	1	440

Table XVII—Distribution of Evening Division Students by Faculty and Home Address
ATTENDING EDMONTON

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others South of Twp. 38	Alberta—not specified	Canada—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	U.S.A.	Other Countries	Totals
Arts and Science	32	1	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	37
Agriculture	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Commerce	7	..	..	..	..	..	..	..	..	..	..	6	..	..	1	3	1	..	7
Education	128	2	2	..	1	1	..	..	..	1	26	1	..	..	1	..	..	1	172
Physical Education	4	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	6
Nursing	20	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	21
Graduate Studies	26	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	29
Special students	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	217	3	2	1	1	1	..	..	..	1	33	7	..	..	1	6	1	1	274

ATTENDING CALGARY

FACULTY	Edmonton	Calgary	Lethbridge	Others (on or North of Twp. 38)	Others—(South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	Totals
Arts and Science	1	1	...	...	2	...	...	3
Commerce	...	1	...	...	...	...	...	1
Education	...	28	...	...	8	...	2	38
Special students	...	1	...	...	...	...	...	1
Totals	1	30	...	...	10	...	2	43

ATTENDING LETHBRIDGE

FACULTY	Edmonton	Calgary	Lethbridge	Cardston	Others (South of Twp. 38)	Totals
Arts and Science	...	...	1	...	...	1
Education	...	...	8	1	8	17
Totals	...	...	9	1	8	18

ATTENDING MEDICINE HAT

FACULTY	Medicine Hat	Camrose	Others (South of Twp. 38)	Man., Sask., B.C., Yukon, and N.W.T.	Totals
Arts and Science	...	...	1	...	1
Education	14	1	4	...	20
Special students	2	...	...	1	3
Totals	16	1	5	2	24

ATTENDING RED DEER

FACULTY	Edmonton	Red Deer	Nfld., N.S., P.E.I., N.B., Que., Ont.	Others (on or North of twp. 38)	Others (South of Twp. 38)	Totals
Education	1	8	1	6	3	19

ATTENDING CAMROSE

Faculty	Edmonton	Wetaskiwin	Camrose	Others on or North of Twp. 38	Totals
Arts and Science .....	.....	.....	1	2	3
Education	1	1	16	9	27
Special students .....	.....	.....	1	2	3
Totals	1	1	18	13	33

ATTENDING VEGREVILLE

FACULTY	Vegreville	Others (on or North of Twp. 38)	Totals
Education	13	4	17

Table XVIII—Distribution of Students According to Pattern, Honors or Branch

	1st Year		2nd Year		3rd Year		4th Year		Not Stated		Total
	55-56	56-57	55-56	56-57	55-56	56-57	55-56	56-57	55-56	56-57	
Arts and Science											
B.A.—Pattern											
English	23	22	20	23	17	16	...	...	...	60	61
Music	4	4	3	5	3	3	...	...	...	10	12
Foreign Lang. or Lit.	11	18	6	7	2	25	...	...	...	19	31
History	13	10	8	19	14	11	...	...	...	35	40
Phil. or Psych.	32	45	26	30	36	23	...	...	...	95	98
Economics	5	13	18	16	20	14	...	...	...	43	43
Art	1	2	...	1	...	...	...	...	...	1	3
Political Science	8	1	3	5	3	3	...	...	...	14	9
Geography	1	3	2	1	...	1	...	...	...	3	5
Drama	9	4	2	3	...	1	...	...	...	11	8
No Pattern	3	11	...	...	...	1	...	...	...	3	1
B.Sc.—Pattern											
Chemistry	39	58	28	19	21	25	...	...	...	88	102
Mathematics	4	6	4	1	3	5	...	...	...	11	12
Physics	10	10	3	9	3	3	...	...	...	16	22
Geology	29	46	20	28	25	20	1	...	...	75	94
Botany	1	1	1	...	...	1	...	...	...	2	2
Entomology	2	2	2	...	1	3	...	...	...	5	5
Zoology	55	46	58	57	13	24	...	...	...	126	137
Special B.Sc. course	12	8	13	11	8	13	...	...	...	33	32
Experimental Psych.	9	12	2	6	2	4	...	...	...	13	22
Geography	1	1	1	...	...	1	...	...	...	2	1
No pattern	...	1	...	5	...	1	...	...	...	...	7
Engineering											
Civil	55	54	76	99	63	54	56	57	...	252	264
Chemical	52	61	66	66	36	50	37	30	...	191	207
Electrical	36	46	48	42	24	...	24	22	...	132	110
Mining	3	1	13	9	12	47	6	10	...	34	67
Petroleum	20	26	9	16	8	11	19	9	...	56	62
Engineering Phys.	1	5	...	...	...	8	...	...	...	1	13
Engineering Geol.	2	2	...	...	...	...	1	...	...	3	2
Metallurgical Eng.	...	...	...	3	...	1	...	...	...	...	4
Not specified	...	173	...	...	...	...	...	...	...	...	173
Honors											
Biochemistry	2	4	1	...	1	...	2	...	...	6	4
Botany	1	...	...	...	...	...	...	...	...	1	...
Chemistry	8	13	9	9	8	9	4	7	...	29	38
Classics	1	...	...	...	1	...	...	1	...	2	1

Table XIX—Degrees and Diplomas Awarded

DEGREES AWARDED			DIPLOMAS AWARDED		
	Fall 1956	Spring 1957 Total		Fall 1956	Spring 1957 Total
ARTS & SCIENCE					
B.A.	26	82	Diploma in Art .....	....	2
B.Sc.	14	71	Intermediate		
			Diploma in Art ...	....	5
AGRICULTURE					
B.Sc. ....	....	29			
COMMERCE					
B.Com.	2	22			
DENTISTRY					
D.D.S. ....	....	33			
EDUCATION					
B.Ed.	144	61	Senior	102	89
B.Ed in			Junior Elementary	36	74
Industrial Arts ..	4	....	Junior High School	53	93
ENGINEERING					
B.Sc. in Chemical					
Engineering	9	28			
B.Sc. in Civil					
Engineering	10	54			
B.Sc. in Electrical					
Engineering .....	....	19			
B.Sc. in Engineer-					
ing Physics .....	....	....			
B.Sc. in Mining					
Engineering .....	....	10			
B.Sc. in Petroleum					
Engineering	1	8			
HOUSEHOLD					
ECONOMICS					
B.Sc. in Household					
Economics .....	....	21			
B.H.Ec. ....	....	2			
LAW					
LL.B.	3	22			
MEDICINE					
M.D. ....	....	42			
NURSING					
B.Sc.	21	5	Nursing	51	14
			Teaching and		
			Supervision	2	12
			Public Health		
			Nursing	1	12
PHARMACY					
B.Sc.	3	23			
PHYSICAL					
EDUCATION					
B.Ed.	2	8			
PHYSIOTHERAPY ...	....	....	Physiotherapy	15	....
GRADUATE					
STUDIES					
M.A.	5	6			
M.Sc.	15	16			
M.Ed.	7	3			
Ph.D.	3	2			
D.Sc. ....	....	1			
B.D. COMMITTEE					
B.D.	1	4			
TOTALS	<u>270</u>	<u>572</u> <u>842</u>	TOTALS	<u>260</u>	<u>301</u> <u>561</u>

Report of Dean A. G. McCalla of the Faculty of Agriculture

The Faculty of Agriculture reports a normal, active program for the year 1956-57. The completion of the greenhouses enabled full implementation of the winter programs carried on by several departments.

Mr. F. V. MacHardy returned to the full-time teaching staff as Associate Professor of Agricultural Engineering. Dr. R. J. Hilton, Professor of Horticulture, resigned to accept the headship of the Department of Horticulture at the Ontario Agricultural College. His successor, Dr. Jan Weijer, will arrive in the near future. Dr. J. D. Newton, Professor of Soil Science, has been on leave on a mission to Indonesia on behalf of the Food and Agriculture Organization of the United Nations. Dr. J. A. Toogood returned from sabbatical leave in the United Kingdom and Dr. W. G. Corns left on sabbatical leave which is being spent at the University of British Columbia. Dr. J. A. Vliegenthart joined the Department of Plant Science as a Postdoctorate Fellow in plant biochemistry.

Dr. J. A. Toogood represented the University of Alberta at the installation of the Queen Mother as Chancellor of the University of London. He also attended the meetings of the International Soil Science Society in Paris. Dr. John Unrau presented a paper at the International Genetics Symposia, Tokyo, Japan. Dr. L. P. V. Johnson presented a paper at the Barley Genetics Conference, Fort Collins, Colorado. Dr. D. R. Clandinin was the Canadian representative on the Subcommittee on Poultry Nutrition of the United States National Research Council, and attended several meetings in the United States. Dr. B. Hocking and Dr. G. E. Ball attended the International Congress of Entomology at Montreal, and Dr. Hocking presented a paper.

Academic

Registration of undergraduate students was again up slightly, although the number of first-year students decreased from 36 to 30. There were 112 full-time undergraduates and four special students registered in the Faculty. There were 18 candidates for the M.Sc. degree and 9 for the Ph.D. registered for work in the departments administered by the Faculty. Graduate programs leading to the Ph.D. have now been completed by eight students, six in the Department of Plant Science and two in the Department of Animal Science. A D.Sc. degree is to be awarded this spring to a candidate who has worked five years in the Department of Plant Science.

The facilities of the Faculty are adequate for a larger number of students. Numbers graduating continue to fall short of employment opportunities. Nearly all departments would welcome more graduate students and, in many fields, the supply of graduates with advanced training is definitely inadequate.

Research

As usual, only brief comment regarding some of the research being carried out in the Faculty can be given here. The scope of some projects is indicated by the numbers and titles of papers published during the year.

The Department of Agricultural Engineering has continued work on the use of butane gas in farm tractors, and has initiated studies on a new type of grain storage structure using plywood panels.

The Department of Animal Science has carried on an extensive program of research both in the laboratory and with farm animals and poultry flocks.

Emphasis continues to be heavy on nutritional research but work in breeding is being expanded particularly with swine and beef cattle. Performance records for swine and beef cattle are being given special attention. Several projects were initiated during the year, including one on urinary calculi in cattle which is financed as an Extramural Research Project with the Canada Department of Agriculture.

The Poultry Division of the Department of Animal Science continued work on several nutritional problems, including co-operative studies on nutritive requirements for poultry and on the hatchability of turkey eggs. New projects were started on the nutritive requirements of pheasants (in co-operation with the Game Branch of the Department of Lands and Forests), and on several phases of poultry nutrition.

The Department of Dairying has continued research on the crystallography of butterfat and lactobacilli in milk and cream.

The Department of Entomology has continued research in the fields of insect flight, ground beetle taxonomy and population studies, local mosquito distribution and reactions to the stimuli in aerial spray. New projects have been started on the classification of tiger beetles and on a review of the North American species of the subgenus *Pseudophorus*.

The Department of Plant Science made substantial progress in the development and introduction of new varieties of grain. It is hoped that it will be possible to apply for a license for a new variety of rust-resistant soft wheat within the next year. The work has been supported by three of the milling companies using Alberta-grown soft wheat. A licence has been obtained for "Sangaste" fall rye introduced to the University by Mr. R. R. Berg from Estonia. Good progress has been made with work on early varieties of rape-seed and flax.

The program in cytogenetics is progressing favorably and intensive studies will soon be possible using materials produced in their projects. Genetic studies include work on tetraploid barleys, mode of inheritance of yield in barley, and the development of interspecific hybrids between wild barley and cultivated rye.

Studies on the control of ergot in rye have yielded two new approaches; one by spraying flowering heads of rye with an antibiotic and the other by fungal attack on the sclerotia in the soil. Work has also been continued in the search for non-mercurial fungicides for use with grain.

The Division of Plant Biochemistry and Physiology has acquired a new experimental flour mill after using the original one for 33 years. Extensive testing of the new lines of soft wheat has been carried on. Projects have also included work on fatty acid metabolism, wheat stem carbohydrates, and dormancy in seeds of the high-bush cranberry. Fundamental studies on the properties of plant proteins have been continued, and intensive studies of wheat proteins have been resumed.

Studies on winter hardiness and cold injury have been continued in the Division of Crop Ecology. Dr. Corns' work at the University of British Columbia will undoubtedly prove valuable in relation to the program here.

The program in Horticulture was affected by Dr. Hilton's move last spring, but most of the work has been successfully carried on. The co-operative prairie fruit breeding project is beginning to yield valuable information.

The Department of Soil Science continued its long-term studies at four locations: Edmonton, Breton, Youngstown, and St. Albert. Unusually good moisture conditions at Youngstown have hampered the irrigation studies there and it is now planned to continue these until 1960. A new method of preparing legume inoculation cultures has been developed for commercial production by Dr. J. D. Newton. Fertility studies still play a very important part in the work of the department. New equipment for the placement of fertilizer has been developed and used in the research work. Studies on the effect of fertilizers on the nutritive value of feeds have been continued.

Financial support for much of the research comes from agencies outside the University. Grants of money and materials have been received from so many sources that individual acknowledgement in this report is impossible. Commercial firms have supplied feed supplements, special chemicals, fertilizers, etc. and some have made substantial cash grants. The fundamental research program of the faculty receives major support from two sources, the National Research Council of Canada and the Canada Department of Agriculture. Grateful acknowledgement is made to these and all other contributors.

Extension

The extension aspects of Faculty work serve to give us direct and indirect contact with many farmers in the province. All departments report a wide variety of extension activities, with a greater than usual number of addresses at farmers' meetings and short courses.

Feeders' Day on June 2 attracted a crowd estimated at 1,200. This event has now a province-wide reputation and, in fact, is recognized outside the province as an outstanding event. A supplementary "fall" Feeders' Day was held at High River in co-operation with the Western Stock Growers' Association and attracted 350 people. The Field Day at the plots operated by the Department of Soil Science at Breton was attended by about 300 visitors.

Other extension activities included radio talks; identification of plant, insect, and other specimens submitted to the departments; judging at seed, horticulture, and livestock shows; personal interviews; correspondence; and the preparation of bulletins, leaflets, and other publications for distribution.

Although the operation of the Agricultural Soil and Feed Testing Laboratory is not strictly an extension activity, its primary function is to give service to the farmers of Alberta. During the past year nearly 2,000 samples were analysed with the farmers' soil samples making up the largest group. A number of special analyses of flax and flax straw were carried out as frost did considerable damage to this crop last fall. Greenhouse operators also made extensive use of the soil analysis service.

In concluding this report I should like to express my thanks to all members of the Faculty for their co-operation during the past year and for their general willingness to take on responsibilities beyond their normal duties.

Report of Dean Walter H. Johns, of the Faculty of Arts and Science

I have the honour to present a report dealing with the Faculty of Arts and Science for the session 1956-57.

1. Registration 1956-57

Detailed figures for registration will appear in the report of the Registrar, but it may be pointed out here that the figure in the Faculty in Edmonton alone, exclusive of the Schools of Commerce and Household Economics, reached 1,000, with 92 registered at the University of Alberta in Calgary. These are substantially above the figures of 840 and 56 respectively for the previous session.

2. Recommendation for Degrees and Diplomas

The number of students recommended for degrees is as follows:—

	1956 October,	1956 May,	Total
B.A.	26	82	108
B.Sc.	14	71	85
Intermediate Diploma in Art .....	.....	5	5
Senior Diploma in Art ...	.....	2	2

3. Progress during the Session

(a) *Administration*—In the absence of Dr. K. B. Newbound on leave, Dr. F. D. Blackley was appointed Assistant to the Dean.

(b) *Calgary*—With the addition of new staff and further senior courses in the Faculty of Arts and Science at the University of Alberta in Calgary, the Council of the Faculty agreed that certain students might secure permission to complete the second year of a B.A. program in Calgary subject to approval of the Head of the Department in each case.

(c) *Lethbridge Junior College*—Approval of teaching staff in a number of Departments in the Faculty made it possible to organize a Junior College in Lethbridge in affiliation with the University.

(d) *New Honors Programs and Patterns*—The Faculty approved new Honors Programs in Applied Mathematics, Physics and Geology, and Physiology, while new patterns were approved in Sociology and in General Science, the latter being designed to meet the needs of students preparing for admission to the Faculty of Medicine or to the Faculty of Education for Teacher Training. A regulation was passed calling for *nine* courses to be completed by candidates holding either the B.A. or the B.Sc. in Arts and seeking the other degree. Such students will be required to secure second-class standing in five of the prescribed courses and to select their program in accordance with the pattern of their choice.

(e) An unusually large number of new courses was approved particularly at the graduate level:

Chemistry—Inorganic Preparation, Theoretical Organic Chemistry. English—Conference Course, Bibliography and Methods of Research, Literary Criticism, Study of Language, Advanced Course in Writing, Old Norse and Germanic Philology, Old English, Chaucer and his Contemporaries, The Scottish Chaucerians and English Literature of the Fifteenth Century,

Mediaeval Drama, Spenser and Donne, Shakespeare and his Contemporaries, Early Seventeenth Century Poetry and Prose, Milton, Eighteenth Century Prose, Wordsworth and Coleridge, Nineteenth Century Thought, Studies in the Modern Novel, Poetry in English since 1939. French—Romance Philology. Geology—Field School (ten days in April). History—English History, 450 - 1540 A.D., European History, 1095 - 1305 A.D. (These two courses are offered in St. Joseph's College for Roman Catholic students only), American History since 1865, Westward Expansion of the United States, American Economic History, Canadian History to 1654, Canadian History since 1854. Mathematics—Advanced Analysis of Variance, Calculus of Finite Differences, Integral Equations, Conformal Mapping, Analytic Number Theory, Topology, (Half course) Calculus and Space Geometry (particularly for students in Geology). Philosophy—Philosophy of Science. Physics—(Half course) Electricity and Magnetism (particularly for students in Geology), Advanced Geophysics, Advanced Quantum Mechanics and Quantum Field Theory, Advanced Electromagnetic Theory, Theoretical Nuclear Physics. Psychology—General and Developmental Psychology. Romance Literature in English Translation 50. Sociology—The Human Community, Criminology and Penology, The Family, Sociology of Group Relations, History of Sociological Thought, Theoretical Sociology and Social Research, Small Group Behaviour. Spanish—Introductory Spanish. Zoology—Principles of Evolution.

One course was dropped—History 72 (History of Sea Power and Diplomacy)—and a large number of courses underwent modification.

(f) *Leaves of Absence and Sabbatical Leave*

Dr. K. B. Newbound was given leave of absence from the Department of Physics to carry out research with the Defence Research Board in Halifax. Dr. R. B. Sandin of the Department of Chemistry was given sabbatical leave to carry on research and spent much of this period in his own laboratory on the campus. Dr. E. J. Hanson, Head of the Department of Political Economy, secured leave in order to analyze the effect of the petroleum industry on Alberta's economy in a study sponsored by Imperial Oil Ltd.

(g) *Retirements, Resignations and New Appointments*

Miss Mabel Patrick retired after over thirty years of service as Director of the School of Household Economics and was succeeded as Director by Miss Hazel McIntyre. Professor William Rowan retired as Head of the Department of Zoology and Professor L. H. Nichols retired from the Department of Physics, but accepted a temporary appointment on the staff in Calgary.

Dr. C. P. Gravenor, Mr. J. D. Godfrey, and Dr. D. Hope Simpson retired from the Department of Geology, the two former to accept appointments with the Research Council of Alberta. Dr. D. M. Schurman resigned from the Department of History to join the staff of the Royal Military College in Kingston and Dr. L. C. Walker left the Department of Philosophy to carry on research with the U.S. Air Force.

New appointments included Mr. Emmett Wallace in Business Administration, Dr. R. J. Crawford in Chemistry, Mr. I. C. Sowton in English, Dr. R. A. Burwash, Dr. H. A. K. Charlesworth, Dr. J. F. Lerbekmo, and Dr. R. S. Taylor in Geology in Edmonton, and Dr. D. G. Crosby on a part-time basis in Geology in Calgary, Dr. W. D. Farnham in History, Mrs. Hazel Brown Breslin, Miss

Joyce Lister, and Miss Melvina Gowda in Household Economics, Dr. O. P. Aggarwal in Mathematics, Dr. Erich Von Richthofen in Modern Languages, Dr. R. L. James in Sociology, Dr. J. F. Lambert in Social Psychology, Dr. D. D. Betts and Dr. L. E. A. Trainor in Physics, Mr. M. F. Bauer and Mr. F. R. Anton in Economics, Mr. B. R. Bociurkiw in Political Science, Mr. A. H. Laycock in Geography, and Mr. G. O. Mackie in Zoology.

4. Departmental Reports

Botany

During the year the University secured the excellent herbarium of William Copeland McCalla. This was made possible through the kindness of Dr. McCalla himself and the generosity of the "Friends" of the University. The herbarium consists of 14,000 mounted sheets and 2,000 photographs of plants represented in the collection, as well as about 1,000 prints inserted with the specimens. It is a very valuable acquisition and much appreciated by this Department.

Two members of the Department were awarded National Research Council summer research associateships, namely, Dr. R. G. H. Cormack, who pursued studies on the effect of pectic enzymes on epidermal cells of roots, and Dr. E. H. Moss, who continued his work on a manual for the flora of Alberta. Miss Lorene Kennedy spent the summer at the State University of Iowa where she was engaged in mycological studies. Mr. A. R. Prince devoted a portion of the summer to the lichen flora of Rocky Mountain forests.

Dr. Cormack lectured at the Provincial Ranger School at Kananaskis for the seventh consecutive year. Dr. J. H. Whyte gave an invitation paper on "Plant Introduction in the Edmonton Area" at a meeting of the Western Society of Horticulture at Regina.

Chemistry

As one of the largest service Departments in the University serving the needs of students in a total of ten Faculties and Schools, the Department of Chemistry saw another substantial increase in the numbers enrolled in its courses. The largest portion of this increase came from the Faculties of Engineering and Arts and Science, and one gratifying feature was the increase in students in Honors Chemistry. With a growing need for graduates in industry, the need for more Honors and graduate students to provide staff for demonstrating and teaching becomes more acute and the Honors graduates are the only source of this supply. It is hoped that the increase in Honors students will be reflected in a larger number of graduate students seeking their advanced education in Canadian universities. There were eight graduate students in the past session, all registered for the degree of Master of Science.

Dr. O. J. Walker, Head of the Department, was honored by election as President of the Chemical Institute of Canada and spent several weeks during the months of November, 1956 and January and February, 1957 visiting Sections and Student Chapters of the Institute in the Maritimes, Quebec, and Ontario, addressing audiences in 25 centres in "Fluorine and Water Supplies".

Professor R. B. Sandin was on sabbatical leave during the year and spent this time doing research on chemotherapeutic agents for cancer.

Professor J. L. Morrison was elected a Fellow of the C.I.C. and presented papers at the meeting of the C.I.C. in May, 1956 and at the Second World

Congress on Surface Activity, International Union of Pure and Applied Chemistry in London, England in April, 1957. Dr. W. E. Harris, who was also elected a Fellow of the C.I.C. in the past year, attended the meeting of the American Chemical Society at Miami, Florida in April, 1957. He presented a paper at the Western Regional Conference of the C.I.C. in September, 1956 on "Rapid Analysis of Oilfield Waters".

Dr. R. K. Brown spent the summer of 1956 doing research at the McCardle Cancer Institute, Madison, Wisconsin.

All members of the Department continue active in research including those named above and also the following:

Dr. S. G. Davis, working on Isotope effect on reaction rates as found in deuterated acetone;

W. J. Wallace on metal halides;

W. F. Allen on methods for determining small amounts of cobalt;

and R. J. Crawford on the chromium (II) reduction of alkyne and similar projects.

Research grants have been obtained from the National Research Council, the Canadian Cancer Institute, and the University's Central General Research Fund.

Classics

Dr. W. H. Johns continued as Dean of the Faculty of Arts and Science and delivered a large number of radio talks on the CBC, CKUA, and CFRN-TV, and addresses in Edmonton, Calgary, Red Deer, Lethbridge and other centres on a variety of topics. Dr. W. G. Hardy delivered two lectures on the CBC on the decipherment of the Minoan Linear B Script, while Miss M. MacKenzie spoke on the CBC on Pompeii.

During the year the Department acquired a number of replicas of cups and statues from the classical period to be used for teaching purposes.

Miss Mildred Staples, a final-year student in Honors Latin and French, was appointed as Woodrow Wilson fellow for the Northwestern region of the U.S. and Western Canada.

English

During the current session the Department secured approval for a large number of specific graduate courses so that candidates for graduate studies in English will be able to select a program of courses suited to their interests and needs.

Members of the Department were active on and off the campus in a wide variety of ways. Mr. Ryan and Dr. Elder taught at the Royal Military College, Kingston in the summer of 1956 while Dr. Godfrey taught a Creative Writing course at the Banff School of Fine Arts.

Dr. Kreisel was adjudicator of the Provincial one-act Drama Festival at Red Deer in April, 1957 and, with Dr. Godfrey of the Department and Miss Freifield of the Library arranged the "Men and Letters" programs over CKUA.

Dr. F. M. Salter was again in great demand as a speaker and delivered addresses at the Shakespeare Festival and a meeting of the Humanities Association, both at the University of British Columbia in January, 1957 and several others in Lamont, Red Deer, and Edmonton.

Public addresses were also given by Dr. Kreisel, Dr. Alison White, Professor

Jones and Dr. Watson, while Dr. Kreisel, Dr. Godfrey, Dr. Watson and Mr. Sowton appeared on programs on radio or television or both.

Mr. I. C. Sowton, a new member of the staff, won the Frederick Davidson Prize for Poetry, University College, Toronto, and Dr. White won a Fellowship from the Humanities Research Council of Canada to permit her to study in the United Kingdom in the Summer of 1957.

Fine Arts

Painting Division—This past year saw the first two students complete the four-year program leading to the Diploma in Art. Other students enrolled in the regular art courses brought the number to 207 registered in 16 courses, and displayed a steady improvement in the calibre of the work. Similar increases were shown in the non-credit courses given through the Department of Extension and the evening courses given in the Evening Credit Program. Pottery classes were given as well in the past year.

The Division held a number of exhibits in the gallery of the Rutherford Library, in the Arts Building, and in the foyer of the Studio Theatre, some sponsored by the National Gallery of Canada, and others including exhibitions by local artists, including members of the staff and students of the Division.

Professor H. G. Glyde, head of the Department, attended a number of national conferences on art education and was active in designing and producing murals in the new Edmonton City Hall and the Medicine Hat Public Library as well as exhibiting his work in Edmonton, Vancouver, and elsewhere. Mr. J. B. Taylor and Mr. E. N. Yates, members of the staff, designed a number of sets and exhibited their work in a number of places.

Drama Division—Mr. Gordon Peacock and Mr. Frank Buechert were responsible for the teaching of a larger group of students again this year and supervised the production of a number of plays in the Studio Theatre with the technical operation being carried out by students in the classes in Stagecraft. In addition, Mr. Peacock directed "Point of Departure" and "Antigone" and Mr. Buechert directed "Love of Four Colonels". The latter play will be taken on a tour of two weeks as a part of the program "Maytime in Alberta" sponsored by the Cultural Activities Branch of the Department of Economic Affairs. Mr. Peacock was appointed Governor of the Dominion Drama Festival being held in Edmonton this year and one of three members of the Canadian Theatre Conference Committee for 1956-57.

Music Division—As in previous years, Professor R. S. Eaton has been responsible for all choral work on the campus including the famous University of Alberta Mixed Chorus, the Music Division Chorus, and the University Singers, while Mr. A. B. Crighton has directed the University Symphony with the help of Mr. Edgar Williams, the teacher in the string classes. In addition to this contribution to the cultural life of the campus and the Edmonton area, they carried instruction in five Music classes in the University. Mr. G. K. Greene, Extension Lecturer in Music, organized and carried on classes in outside centres.

The Mixed Chorus, under Professor Eaton's direction, gave their usual January concerts in Convocation Hall and also appeared in Sangudo, Westlock, Athabasca, and Thorhild in the winter, sang on the CBC and at the opening of the Jubilee Auditorium in Edmonton and appeared in the Spring tour as

part of the cultural activities program in a large group of towns in central and eastern Alberta.

Geology

Four new staff members joined the Department in the current year to bring the number of full-time members to seven, with Professor Emeritus Warren carrying on as part-time Lecturer in Edmonton and Dr. Crosby providing instruction in Geology 1 for the first time at the University of Alberta in Calgary.

The Department is active in research on a number of topics and Professor R. E. Folinsbee, head of the Department, was elected a Fellow of the Royal Society of Canada in June, 1956. Professor Stelck, a recognized authority on Cretaceous geology, attended the International Geologic Congress in Mexico City in September, 1956 and presented a paper prepared jointly by himself and Dr. Warren. Dr. Folinsbee and Dr. Burwash attended the meetings of the Geological Society of America in Minneapolis in November.

The Department, in recognition of recent developments in the earth sciences, has joined the Department of Physics in a newly-designed honors course and has planned a program of research in geochronology which should keep the University of Alberta in the forefront of this evolution. It has also instituted a program of field work for students to be held annually in the Cranbrook area of British Columbia.

History

The Department of History continued to provide instruction to a large number of students, particularly in the Faculty of Education, and supervised arrangements for a number of courses in both the Summer Session and the Evening Credit Program in addition to its normal instructional program in the regular session. Four students were registered for the M.A. degree in the Department and completed their theses during the Session. Dr. L. G. Thomas and Dr. W. D. Farnham attended the meeting of the Pacific Branch of the American Historical Association at Eugene, Oregon in December, 1956 and presented papers there. All members of the Department were active in research during the session.

Mathematics

During the past session the complement of staff in the Department rose to fourteen full-time and six part-time instructors. Seven students pursued work for the Master's degree and one was registered for the Ph.D.

Professor Keeping attended a Conference on Digital Computers held in Vancouver, B.C. in October, 1956 at which representatives from a number of universities in the Pacific North-West were represented. Dr. G. K. Horton attended an International Conference on Electron Transport in Metals at Ottawa in September.

Dr. Helfenstein and Dr. Lightstone carried on research at the Summer Institute in Mathematics at Queen's University in 1956 while Dr. Wyman, Dr. Moser and Dr. Horton received Summer Research Grants from the National Research Council to work during the summer at home.

Modern Languages

Registrations in the first year of the Modern Language pattern were more

than double those of the previous year and there was a similar increase in the number of those entering Honors programs in the second year. Two students were registered for the M.A. degree.

Dr. E. Von Richthofen and Dr. E. J. H. Greene presented papers at the Pacific Northwest Foreign Language Conference held at the University of British Columbia this year.

Dr. V. E. Graham of the Calgary staff was awarded a grant by the Humanities Research Council to enable him to finish his critical edition of Desportes, now almost ready for publication. He will spend the summer studying in France.

Students of the Department presented *Bal des Voleurs* by Jean Anouilh at four performances in the Studio Theatre and one in Calgary under the direction of Mr. Rabotin, Sessional Lecturer in French.

Philosophy and Psychology

The teaching of courses in Sociology was expanded this year with the appointment of Dr. R. L. James in this discipline.

Members of the Department participated in the development of research in the wants and needs of aged citizens in Edmonton, a project undertaken by the Edmonton Council of Community Services. Professor D. E. Smith was chairman of a committee to plan the study with Professor L. C. Walker and B. Y. Card among the members. Dr. James was appointed Research Associate by the Council to carry on detailed operations in the study.

The teaching and counselling service begun last year has been established as a permanent operation to give assistance to persons seeking advice and to others referred to it by various agencies and commercial organizations.

Dr. Smith continued to serve on the Matriculation Study Committee set up by the Joint Committee to Co-ordinate University and High School Curricula as well as on a number of other committees. He was also the Officer Commanding the University Contingent of the Canadian Officers' Training Corps.

Mr. T. M. Penelhum was appointed tour leader and staff member at the 7th International Seminar of World University Service in the summer of 1956. He conducted a party to Greece and participated in the Seminar in Germany.

Dr. D. Spearman presented a paper at the meeting of the Canadian Psychological Association, and Dr. James at the meeting of the Pacific Sociological Society.

Physics

There has been the usual large increase in the number of students from other departments and faculties taking elementary courses in Physics, but at the same time there has been an encouraging increase in the number specializing in Physics. This year there have been twelve students in second, third and fourth year honours, and nine in third year Engineering Physics. The low in Physics registration of the last three or four years was this year reflected in the fact that there were only two graduate students working on research projects. At the October convocation the first Ph.D. in Physics was granted to Dr. M. C. Martin.

The Theoretical Physics group has been further strengthened by the appointment of Drs. L. E. H. Trainor and D. D. Betts, and the group has

continued to be active in research throughout the year. Dr. A. B. Bhatia has been studying the role played by electron-electron collisions in transport phenomena in metals. Dr. Trainor has been working on fundamental problems in quantum mechanics, and on the properties of nuclear matter and nuclear forces. Dr. H. Schiff and Dr. Betts with Dr. G. K. Horton of the Mathematics Department have continued their work on the theory of metals.

In Geophysics, Dr. G. D. Garland has extended his gravity measurements in the Rocky Mountain and foothill areas. He has also had a graduate student measuring earth currents in the Prairie Provinces, and has constructed a magnetometer suitable for making simultaneous measurements of variations in the earth's magnetic field. Dr. E. H. Gowan has continued his long-term studies of atmospheric ozone and of solar ultra-violet radiation. Both Drs. Garland and Gowan have been active in assisting with preparations for the International Geophysical Year, the former as a member of the Canadian Committee on Geodesy and Geophysics.

Dr. D. B. Scott has been co-operating with the Radiology Department of the University Hospital in several problems of Medical Physics, the use of radio-iodine in the diagnosis of allergies, the design of beta-ray applicators for the treatment of surface lesions, and clinical uses of radiophosphorus. Dr. J. H. Harrold in a long-term project supported by the Defence Research Board, has been working on an interferometer method of studying the microscopic details of metal surfaces. He spent the summer of 1956 in the laboratory of the Mines Branch in Ottawa. Dr. K. B. Newbound has been on leave of absence to organize a special project in the Naval Research Laboratory at Halifax. Dr. H. Grayson-Smith acted as Chairman of the special committee which was set up to supervise the acoustical testing and tuning of the new Provincial Jubilee Auditoria. He and Dr. Gowan have also served on the Hail Committee of the Alberta Research Council, helping to organize an extensive study of hail storms in the province.

Political Economy

During the absence of Professor E. J. Hanson in the past year the administrative duties of the Department have been carried on by Professor W. D. Gainer. An important change in the organization of the Department occurred when the Division of Geography was established as an independent department under the headship of Dr. W. C. Wonders.

Members of the Department assumed a heavy responsibility for delivering courses of lectures and single addresses in the University's Evening Credit Program, non-credit courses arranged by the Department of Extension, lecture series arranged by the Armed Services and other organizations, and addresses to a number of other groups. Certain members of the Department also gave radio talks and all served on various committees on and off the campus.

Mr. G. R. Davy acted as Faculty adviser to the University Debating Team which this year won the McGoun Cup and accompanied the team to Ottawa to compete in the Dominion finals where they were defeated. Later Mr. Davy was named a staff member of the World University Service seminar to Ghana and he will conduct a party of Canadian students on a tour of Eastern Nigeria during the summer.

Zoology

Dr. William Rowan retired at the end of August, 1956 and was succeeded by Dr. R. B. Miller as Head of the Department.

Members of the Department continued research in their respective fields of interest during the year, Dr. Miller in Alberta fishes and invertebrates, Dr. Moore in mammals, amphibians, and reptiles of Alberta, Dr. Nursall in the swimming methods of aquatic creatures, and Dr. Mackie on the siphonophores.

A successful summer's work was carried on at the Alberta Biological Station where studies were made on hatchery trout, blue grouse, and Bighorn sheep. Six graduate students were registered in the Department and three completed the requirements for the Master's degree this year.

Dr. Miller was elected vice president of the Wildlife Society of America for 1957.

Report of Professor B. A. Lindberg, Director of the School of Commerce

Faculty Changes

Mr. William R. Blain, B.A. (University of Alberta), was appointed as Lecturer (Case-writer) on 1st May, 1956, and subsequently resigned from this appointment effective 15th October, 1956.

Professor Emmett Wallace, B.S. (Cornell), M.B.A. (Harvard) was appointed Associate Professor in Business Administration, effective 1st November, 1956.

Professor Boris Gardave resigned his appointment as Assistant Professor in Business Administration, effective 31st August, 1957. The Appointments Committee, comprising Dean W. H. Johns, Professor J. D. Campbell, and Professor W. D. Gainer, is currently engaged in the selection of an Assistant Professor in Business Administration.

Case Collection

During the year 73 teaching cases were developed and written. Most of these have been used in classes. Further cases are currently in the process of being completed. The support of business and industry in making case materials available to the University is one of the most encouraging aspects of the year's operations.

Evening Courses

During the year ten courses were offered for evening students in co-operation with the Department of Extension — six in Edmonton and four in Calgary. These courses, and the number of participants, were:

	Calgary · Edmonton	
Management Development	13	17
Supervisory Training	23	52 & 49
Personnel Administration	14	23
Wage and Salary Study	22	11
Organisation Study .....	.....	15

The Wage and Salary Study and the Organisation Study courses were new courses, offered for the first time this year.

School of Commerce Council Activities

The Council met seven times during the year.

The Committee on Future Trends and Directions gave their report to the Council on the 4th May, 1956. The Committee recommended that the course be extended to a four year programme, but the Council recommended that the Committee be made a Standing Committee, and that it concentrate on a curriculum for a general three year course, with emphasis on a fourth year Honours programme.

An Ad Hoc Committee to investigate and make a report on the possibilities of a co-operative programme with industry with respect to summer employment for students, was appointed. The recommendations of this Committee were approved, and the Director was authorized to implement the programme informally for all of the second year students, as far as possible, in the summer of 1957. All second year students have been requested to inform the Director of their summer employment, and letters outlining the programme have been sent to their employers, together with a copy of SUGGESTIONS FOR OBTAINING THE OPTIMUM EDUCATIONAL BENEFITS FROM SUMMER EMPLOYMENT, which have been given to the students.

The members of the Advisory Committee of the School of Commerce were appointed. These are: Mr. L. W. White, Chairman, Mr. G. H. Findlay, Mr. Murray Marven, Mr. R. Scott, Mr. T. Sissons, Mr. M. E. Stewart, Mr. I. Telmer, Mr. M. E. Wolfe and Mr. J. R. Yarnell. The first meeting of the Advisory Committee was held on 11th February, 1957. This meeting was devoted to informing the members of the Committee about the objectives, current activities and future directions of the School of Commerce. Presentations were made by members of the Faculty concerned with courses given in the School of Commerce. The Committee also met with the Executive of the Commerce Club.

Freshman Week

A programme for freshmen during their first week was instituted in the School of Commerce this year. This programme, worked out in conjunction with Dr. A. J. Cook of the Student Advisory Services, consisted of a variety of tests and discussion groups, during the days following the initial registration.

Banff School of Advanced Management

Faculty members of the School participated in the Banff School of Advanced Management as instructor and observer. Faculty members also co-operated with instruction in two other programmes offered at the Banff School of Fine Arts: the University Short Course in Personnel Management, and the University Short Course in Executive Development.

New Course

Plant Administration, a course dealing with the administration of industrial and manufacturing operations, was instituted this year. Visits were made to various industries in the district during the course of the year.

Department of Accounting

General

The work carried on by the Department of Accounting during the year 1956-57 consisted of the normal operations with the exception that the course given by the department in accounting for the law faculty was extended from a one-half year course given to the second year law students to a full year

course given to the final year law students. The programme of courses given by the Department consisted of:

School of Commerce —Three courses, with lab.

Faculty of Law —One course.

Faculty of Dentistry —A portion of Dentistry 49, given to the final year dentistry students.

Faculty of Pharmacy—One half-year course, with lab.

The major changes which are anticipated in the coming year will involve the change in the number of sections of the courses being given to the School of Commerce. In addition, the course which formerly consisted of one-half year given to the Pharmacy students, is to be extended to a full year course. The lab., which was previously given in the half year course, is to be dropped in the new course. The content of this course has been cleared with the Faculty concerned.

Research

The Research activities of the Department have been confined to a continuation of the financial statement analysis of published statement, for Canadian Corporations. The October 1956 issue of *COST AND MANAGEMENT* carried an article arising from this Research, setting out in "Trends in Canadian Corporate Financing Since 1948", which was prepared by Professors J. D. Campbell and W. D. Gainer. It is hoped that something of a similar nature will be prepared this year. Continued work is being done in the field of Applied Marginal Income Analysis as applicable to the small businesses. In addition, work is being carried on, leading to the preparation of a standard accounting brochure for use by dentists in setting up their preliminary accounts for their practice.

Extension Work

Professor J. D. Campbell was appointed as Director of the Hospital Planning Committee of the Department of Public Health and in this respect has devoted his efforts to the preparation and implementation of a hospital plan for the Province of Alberta. This work has been carried out in close co-operation with the Alberta Hospital Association and the Canadian Hospital Association.

The evening Extension Case course was started for top management in the area of Financial and Accounting Controls, in Calgary. This was not favourably received on the basis of the number of applications, with the result that the course was not continued. No attempt has been made to repeat this course in Edmonton as yet, but tentative plans are on the way to provide for this course in the pattern of the evening courses to be given during the coming season.

The members of the Department have been actively engaged in the work entailed with the professional societies, both the Industrial and Cost Accountants in Alberta, as well as the Institute of Chartered Accountants in Alberta. To the extent that the University is involved with these professions the members of the Department have taken active part in the administration both with the Board of Examiners as well as the Board of Review.

In June 1956, Professor J. D. Campbell was granted a fellowship degree by the Institute of Chartered Accountants of Alberta.

Report of Professor Hazel McIntyre, Director of the School of Household Economics

I beg to submit the following report of the School of Household Economics for the year 1956-57.

Registration

Registration in the School is slightly greater than that of the 1955-56 session. There were 85 students — compared with 78. In addition, there were two partial students. There was a marked decrease in the number of Education students registered in courses offered by the Department of Household Economics — from 81 to 37. In the School of Nursing, there were 147 students this year and in 1955-56, 154. Summer School registration in our school was 142 and in the previous year, 167.

For the first time, senior students in the School chose either the dietetics pattern or the Clothing and Applied Art pattern. There has been a marked increase in registration in the course in Applied Art.

Staff

There were four sessional appointments for the year 1956-57: Mrs. Helen Bentley, Mrs. Alice Brewer, Mrs. Florence Wilson, and Mrs. Hazel Breslin. Miss Melvina Gowda was appointed as assistant to Miss Joyce Lister who has replaced Miss Baunita Young.

Graduate and Student Appointments

Miss Elizabeth Empey received her M.S. degree from Cornell University and is continuing her studies there.

Eleven members of the graduating class have accepted hospital interne appointments, nine expect to enter the Faculty of Education, four have been appointed by the Department of Agriculture. Three seniors are going into positions without further training and two are in homemaking. Seven students in the School are associated with the R.C.A.F.

Report of Dean W. Scott Hamilton of the Faculty of Dentistry

There is a continuing increase in demand for Dental Service throughout the entire country. This is due not only to the increase in population, but as well to a greater appreciation of preventive measures which are available. The dentist's most valuable contribution is attention to the children of the community. It has long been established that education of parents in preventive measures and care of children will do much to avoid disaster in adult life. For these and other reasons it is important that a Dental Faculty be on the alert to introduce such measures as are necessary in order to keep pace with the newest thoughts in teaching of the various subjects.

Basic principles remain the most important in any educational programme, and our efforts have for many years been stressing the relationship of basic science to the clinical and allied subjects. We now have members of our dental staff attached to four of the basic science departments and two are engaged in research within those departments. This is the most encouraging evidence of progress that we have seen for some considerable time. Other investigative programmes are being conducted at the clinical and preclinical levels as well.

Dr. C. R. Castaldi presented a paper before the International Association on Dental Research at Atlantic City. Dr. R. C. McClelland attended a con-

ference on Dental Education at S. Louis, Mo. Dr. R. S. Van Alstine made a tour of Saskatchewan, giving lectures and clinics at various centres throughout the province. This is a method of extension activities which could be expanded to great advantage.

In addition, various members of the faculty presented papers and clinics to provincial groups during the year. They were also active giving lectures to lay groups particularly during Health Week. The biannual refresher course proved the success that it always has for many years.

Dr. C. R. Castaldi came to our faculty on a full time basis from the University of Indiana to take charge of the field of Pedodontics. His experience in this field extends over a period of several years, and he has published many valuable papers. Dr. Z. Mezl, who came originally from Czechoslovakia, and who was a special student in the faculty during the past year, has also been appointed to the faculty. He is the author of a text-book and has published several articles in English, French and German. A grant which he is to receive will permit him to continue the research which he had to discontinue when he escaped from his native land. During the month of May, 1957 he gave a series of lectures in French to the profession in the Province of Quebec.

A Conference on Dental Education was held under the joint auspices of the Faculties of Education and Dentistry and financially sponsored by the Kellogg Foundation. This was a new venture first suggested by the Council on Dental Education. Dr. A. C. Lewis of the Ontario College of Education was guest lecturer on that occasion. It was such a huge success that it has attracted attention throughout our university, and the American Association of Dental Schools as well. A limited number of reports of this conference are available.

From many sources we have received assistance and suggestions which were of value in establishing better teaching relationships. Not the least of these was the interest shown and suggestions received from the student body. The Dean's bi-monthly conferences with the class representatives is an experience which pays dividends and tends to bring the staff and students closer together. The students also co-operate in introducing the first year class each year and the President of the Dental Undergraduate Society is given a period on the time-table during the Orientation Exercises for new students.

Report of Dean H. T. Coutts of the Faculty of Education

Registration

Student registration rose slightly in both Edmonton and Calgary. The most significant gains were in the second year of the B.Ed. program and in the Evening Credit Program. Of the 1,484 students with whom the Faculty of Education was directly concerned during the winter session, 62 were registered in the School of Graduate Studies, 364 in the Evening Credit Program.

Degrees and Diplomas

See page 56.

Developments during 1956-57

(a) Visiting Lecturers

John I. Sharp, Her Majesty's Inspector of London, Professor Andrew F. Skinner of the Ontario College of Education, and Mr. C. R. MacLeod, Superintendent of Elementary Schools, Windsor, were visiting lecturers during the year. Professor Reeves was guest lecturer at the University of Saskatchewan, Dean Coutts at the Ontario College of Education.

(b) *Curriculum*

Both the Junior Elementary and the Bachelor of Education programs were under review by committees appointed by the Dean. Minor changes were made in the elementary route of the Bachelor program. More significant changes are contemplated for 1958-59.

(c) *Leave of Absence*

Associate Professor Bertha Newton spent 1956-57 at the University of Missouri while on sabbatical leave. Professor T. G. Finn left on November 1, 1956 for twelve months of service as curriculum adviser in British Honduras under a UNESCO appointment.

(d) *Staff Changes*

On September 1, 1957, Dr. A. W. Reeves joined the Edmonton staff as Professor and Chairman of the newly created Division of Educational Administration, Mr. Stanley Norris and Mr. Arthur S. Storey joined the staff of the Faculty of Education in Calgary with the rank of Assistant Professor, and Mrs. Joyce Wade joined the staff in Edmonton as instructor in art and music education. Dr. Finn's teaching duties were handled by Miss Mary Crawford, his administrative responsibilities by Dr. J. D. Aikenhead. Miss Newton's work was carried by Miss M. McKill.

(e) *Publications*

While a full list of publications appears elsewhere, special mention is made of *Working with Words and Ideas* (W. J. Gage and Co., Toronto, 1956), by H. S. Baker, *Guidebook for Creative living, Book 5*, (W. J. Gage and Company, Toronto, 1956), by E. W. Buxton, and *The C.E.A.-Kellogg Project in Retrospect* (Canadian Education Association, Toronto, 1956), by R. S. MacArthur.

(f) *Representation at Professional Conferences*

The Faculty was represented at the Western Canada Regional Conference on Teacher Education (Vancouver), the Conference of Deans and Professors of Education (Montreal), the National Conference of Canadian Universities (Montreal), the Canadian Education Association Conference (Winnipeg), the Laval Short Course in Educational Leadership (Quebec), and the Western Great Plains Conference on Exceptional Children (Laramie, Wyoming).

(g) *Graduate Study and Research*

In cooperation with the School of Graduate Studies, the Faculty of Education continued to expand its service to graduate students and to extend its accomplishments in the research area. From the W. K. Kellogg Foundation the Faculty received a grant of \$127,000 over a five-year period to stimulate graduate study and research in school administration. From the Carnegie Corporation the Faculty received a grant of \$50,000 to be devoted to strengthening its general research program. These two grants should bring to the campus a number of graduate students of high quality.

The *Alberta Journal of Educational Research* completed its second successful year of publication under the editorship of Dr. H. E. Smith who succeeded Dr. H. S. Baker in September, 1956.

Divisional Reports

The Divisional Reports below show more completely the extent and variety of activities in which the staff of the Faculty of Education are involved. A

warm word of thanks is again merited by all those who have made this a successful year of operation. Much significant information about the Faculty of Education is included in the report of the Director, Calgary, and in the report of the Director of the Summer Session and Evening Credit Program.

Division of Administration and Supervision (Dr. A. W. Reeves, Chairman)

Following its successful experience over a period of five years in the C.E.A.-Kellogg Project, the Faculty was stimulated to expand its graduate program with a view to becoming a Canadian centre for the study of school administration. As a result, a separate Division of Educational Administration was established in September, 1956, and a chairman appointed to prepare for the implementation of an expanded program in 1957. In the initial operation of the work of the division, the university is being assisted by a five-year financial commitment from the W. K. Kellogg Foundation.

The Division of Educational Administration offers basic courses in school administration and supervision. During the year Mr. Sparby and Mr. Melsness also participated in the supervision of student teaching, taught methods courses in secondary school mathematics and science, and offered graduate courses in administration to evening classes, primarily as a service to principals and teachers in the Edmonton area. Dr. Reeves is Director of the 1957 C.E.A. Short Course for Canadian Superintendents. All members of the Division have participated, either as guest speakers, consultants, or faculty representatives, at the C.E.A.-Kellogg Short Course, the zone conferences for Alberta School Superintendents, the Workshop for Alberta School Principals and Vice-Principals and the Leadership Course for Edmonton Principals. Mr. Melsness was a member of a committee that conducted, at the Faculty, a conference on Dental Education. Dr. Reeves and Mr. Sparby have worked in conjunction with the Department of Education on problems relating to finance and school-house planning.

Mr. Melsness served on the Department of Education's sub-committee on high school science, Mr. Sparby on the senior high school mathematics sub-committee. Mr. Melsness took part in a three-day conference of science teachers sponsored by Imperial Oil, and was a member of the committee selected to judge the Can-Tex Essay contest.

During the year Dr. Reeves visited throughout Canada for liaison purposes with provincial educational authorities, faculties of education, superintendents and professional associations.

The supervision of graduate programs and theses is a major activity of this division.

During 1956-57 Mr. Melsness served as president of the A.T.S.U.A.

Division of Elementary Education (Dr. W. D. McDougall, Chairman)

During the 1956-57 session, there were heavy demands on members of the Division for attendance at institutes, conventions, workshops, etc. In part, at least, as a result of the suggestions of consultants from the faculty these teachers' meetings are becoming more effective agencies in in-service education. There were twenty-five centres visited by members of the Division for one or two-day periods. Some of the more unusual of these conferences were a Case Study Workshop for Medical Students and Nurses conducted by Miss Lampard and participation in the Conference on Dental Education by Mr. Worth.

Other members of the Division involved during the session were Mr. Hodgson, Mr. Forbes, Miss Caldwell, Mr. Barnett, Dr. MacGregor, Mr. Hampson, Dr. McDougall.

The Department of Education made substantial requests for the services of members of the Division. They served on curriculum committees, on textbook selection committees, on examination committees, and on committees preparing special reports and curriculum guides. Those involved most heavily in such assignments were Miss Lampard, Miss Caldwell, Mr. Hodgson, Mr. Worth, Dr. MacGregor, Mr. Barnett.

The Home and School Association continues to request the presence of members of the Division at meetings. So numerous have these requests become that the Division has been obliged to suggest alternative sources for speakers. The staff members most in demand as speakers for Home and School Association meetings are Mr. Hodgson, Miss Lampard, Miss Caldwell, and Mr. Forbes.

Mr. Worth participated in the C.E.A.-Kellogg Leadership Courses and acted as the Director of the Alberta Leadership Course for School Principals. He was also the faculty representative at the A.T.A. Banff Conference. Mr. Card was a faculty representative at the Western Canada Conference on Teacher Education. Mr. Forbes served as critic at several loan exhibits of art, and is chairman of the Northern Alberta Children's Art Exhibit to be displayed in the Jubilee Auditorium. He also spoke to several service clubs and gave one radio address. He conducted an out-of-town course in Art for the Department of Extension.

Miss Lampard returned to the staff of the Division after a year of study at the University of Chicago. While at Chicago, she participated as a panel speaker in reading conferences in Chicago and New York. She is on the editorial board of *The Reading Teacher* and is western organizer for the International Reading Association. During the winter session, she conducted extension courses in reading for adults in Edmonton and Calgary. To further occupy her time, she made a re-survey of Talmud Torah School, and assisted guidance workers to deal more completely with reading and language problems in the schools.

Mr. Hodgson has been provincial president of the Alberta Home and School Association. He directed the activities of this influential organization with his usual enthusiasm, energy and efficiency. He attended many local, regional, and provincial meetings of the organization.

Mr. Hampson, as a member of the non-profit "Alberta Wild Life Tours" exhibited his superb slides in many communities in the province. His photographic skill is being recognized beyond the province, two publications having purchased rights to selected pictures.

Research has not played a major part in the work of the members of the Division. Teaching, supervision, and other demands are sufficiently time and energy consuming as to prevent major research commitments. Mr. Card, Mr. Barnett, and Miss Caldwell are engaged on graduate theses. Miss Lampard has studied several cases involving auditory and visual discrimination and is currently planning a study of the relationship of critical thinking and attendant skills upon achievement in Grade IV through IX. Mr. Worth is completing a study of achievement in Grade III. This has been sponsored by the Faculty of Education Committee on Educational Research.

Considerable writing, as reported elsewhere in this report, has been done by members of the Division.

The Division prepared the program for the visit to the faculty of Mr. C. R. MacLeod, Superintendent of Elementary Schools, Windsor. Mr. MacLeod made a significant impression upon the audiences he addressed and the officials with whom he had conferences. A recent item in the *Edmonton Journal* indicates that a modification of the Windsor plan of acceleration is about to be introduced in a few Edmonton Schools. The progress of this experiment will be followed with interest.

Division of Educational Psychology (Dr. G. M. Dunlop, Chairman)

The staff of the Division is composed of Drs. J. W. Gilles, S.C.T. Clarke, R. S. MacArthur, J. G. Woodsworth, Mr. R. J. C. Harper, and G. M. Dunlop, Chairman. Due to steadily increasing responsibility and the pressure upon Dr. Gilles of administration of the Summer Session and the Evening Credit Program, the staff was carrying an extremely heavy load.

With the exception of the chairman, the members of the Division devoted an appreciable portion of their time to the supervision of student teaching. Each member had responsibility for approximately 12 student teachers.

The members of the division carried heavy additional responsibilities both inside and outside of the University. Dr. Gilles continued as Director of the Summer Session and Director of the Evening Credit Program. Dr. Clarke served as Assistant Director of the Alberta Committee on Educational Research. Dr. MacArthur and Dr. Clarke continued as consultants in the C.E.A.-Kellogg Short Course in Administration and Supervision. Dr. Dunlop served as Director of the Alberta Advisory Committee on Educational Research.

Members of the division served on the following university committees: Council of the School of Graduate Studies—Dr. Dunlop; The University Research Committee—Dr. Dunlop; Faculty Research Committee—Drs. Dunlop, Clarke and MacArthur; Student Advisory Services—Dr. Clarke; Board of Nursing Examiners—Dr. Clarke; Library Committee, Radio Committee, Revisions Committee; Board of Teacher Education and Certification—Dr. Gilles; Subcommittee of the Committee on Articulation of High School and University—Dr. Clarke.

In addition, staff members played major roles in national and provincial activities. Dr. Clarke served as past Chairman and continues as a member of the Board of the Alberta Division of the Canadian Mental Health Association. He also continued to serve on the Department of Education committees for Teacher Recruitment and Promotion policies. Dr. MacArthur served on the Alberta C.E.A.-Kellogg Provincial Advisory Committee and has completed his evaluation of the C.E.A.-Kellogg Five Year Project. Dr. Dunlop served on the Canadian Teachers' Federation Research Committee and on the National Advisory Committee on Educational Research. Drs. MacArthur and Dunlop served on the University of Alberta Management Committee for the University of Alberta Kellogg Graduate Program in Education and Administration and the University of Alberta-Carnegie Program Committee on Educational Research. Dr. MacArthur represented the Faculty on the committee on Scholarships and Prize Awards, and Dr. Clarke on the Matriculation Study Committee.

In extension work the division was active at a number of conventions and institutes. All members participated freely in talks to Teachers' and Home and School Association. Dr. Clarke delivered a paper to the Principals' Workshop; Dr. MacArthur delivered papers to the C.E.A.-Kellogg Conference, Ontario Conference of Principals of Schools, the C.E.A.-Kellogg Terminal Appraisal Conference and the University Men's Faculty Club. Dr. Woodsworth participated in the Community Forum series in Cardston. Dr. Dunlop lectured at the Ontario Education Association to School Inspectors and Administrators of Ontario, and the Research Division of the Ontario College of Education. Drs. Clarke and Dunlop participated in a Conference on Dental Education, both delivering papers and serving as consultants.

The division continued its activity in educational research, providing much of the leadership in the Edmonton Grade III Study and the Calgary Study of the influence of time spent in School Buses upon academic Achievement. All members of the Division have been closely associated with the research of graduate students, both at the master and doctoral levels. Dr. Clarke served on the subcommittee which is guiding a study of the prediction of success in university. Drs. Clarke, MacArthur and Dunlop served as the executive committee on the Faculty of Educational Research and gave guidance to projects sponsored by that organization.

The Carnegie Corporation of New York made a grant to educational research in the University of Alberta in 1955-56. This money has facilitated the following activities: the continued publication of the *Alberta Journal of Educational Research*, supervision of two educational psychology students for the doctoral program, founding of a research library, the employment of a full time secretary, and for educational research. The Carnegie Corporation gave an additional grant of \$1,500 to permit Dr. Clarke to make an extensive survey of educational organizations in the eastern portion of the United States. At its last meeting the Management Committee of the Carnegie project approved three candidates for scholarships in Educational Psychology leading to the Ph.D.

All members of the division were active in the guidance of graduate students at the Master's level. Dr. MacArthur acted as sponsor of Mr. D. Bishop, candidate for the Ph.D. Dr. Dunlop acted as sponsor and chairman of Mr. O. Fritze, another doctoral candidate.

During the current year Mr. Harper acted as Director of the Education clinic with occasional assistance from Drs. Clarke and Dunlop. During the present year, Professor Harper has followed the policy of more intensive work with a smaller number of cases. In all 25 cases received careful study. In addition the Clinic assisted with the testing of intelligence of 325 students.

Division of Secondary Education (Dr. H. S. Baker, Chairman)

The striking of the new Division of Administration in the fall of 1956 left the Division of Secondary Education with four staff members, and with primary responsibilities in curriculum and teaching at the secondary level and in the history and philosophy of education. The Division is of course responsible for the planning of programs for all students in the secondary route and for its graduate students. It also administers the student-teaching program for both elementary and secondary route students.

All members of the Division have made contributions to course work in excess of their formal commitments. Mr. Pilkington offered tutorial instruc-

tion in Education 580, Dr. Walker in Education 560, Dr. Baker in Education 692. Mr. Buxton and Dr. Baker offered Evening Division courses in Edmonton and Red Deer respectively. Dr. Walker offered a late afternoon course in Edmonton, and is Chairman of the Graduate Seminar.

The emphasis upon graduate study is increasing. Though the new Division has now assumed responsibility for students whose programs are primarily administrative, the Division of Secondary Education retains (with new enrolments) more than one hundred active candidates for the M.Ed. degree. Many of these students are embarked or are about to embark upon their theses.

Staff members continue to make extensive contributions beyond their work in the Division as such. All serve on various committees of the Faculty, of the University, and of the provincial Department of Education. Mr. Buxton, for example, has been heavily involved in the drafting of plans for student-teaching in a proposed revision of the B.Ed. program, and is a member of the Department's radio committee. Mr. Pilkington serves as adviser to the Education Undergraduate Society and is a member of the First-Year Committee. Dr. Walker is chairman of the Faculty Timetable Committee and secretary of the Department's subcommittee on High School French. Dr. Baker is chairman of the Department's subcommittee on High School English and serves on the High School Curriculum Committee.

All members of the Division have addressed educational gatherings during the past year. Mr. Pilkington especially has devoted much of his time to Home and School meetings and to Teachers' Conventions. Other projects in which the Division has actively been involved are the Canadian Education Association Short Course in Educational Leadership for Superintendents, the Principals' Leadership Course, and the Conference on Dental Education.

Pressures of teaching and other duties leave the members of this Division little or no time for formal research. Mr. Buxton is, however, working on his doctoral project.

All members of the Division have been involved in publications as reported elsewhere in this report.

Report of Dean R. M. Hardy of the Faculty of Engineering

The number of undergraduate students in the Faculty during the 1956-57 session was 932 as compared to 835 and 720 during the past two sessions. Registrations in the Faculty have continued to increase at a rate somewhat greater than for the overall University average.

The graduating class this year includes 128 students in all branches of engineering which is a decrease of 17 students as compared to the previous session. The somewhat smaller graduating group this year is the result of a number of factors the most significant of which appear to be the increased difficulty in transition from the work in the high schools to scientific courses at the University, and an increase in the number of students transferring to other universities to degree courses such as Mechanical Engineering which are not offered at this University.

The questions of the adequacy of the preparation of students in the high schools of the Province for work in the Faculty of Engineering and the difficulty of transition from high school to University studies have continued to be given attention, but agreement has not been reached as to the proper solutions to these problems. With the inclusion of Mathematics 31 as a requirement

for matriculation for entrance to the Faculty of Engineering, and the increased time allotted to Mathematics in the engineering curricula, more time is being devoted to Mathematics than was the case before the recent major revisions to the high school curriculum.

The demand for engineering graduates has continued at a high level. It appears that with the rapid increase in requirements for technically trained personnel by industry and government services over the past decade, the engineering faculties at the Canadian universities with their present enrollments are not able to meet the demands for graduates.

Despite the difficulty of attracting students to graduate programs in competition with the opportunities for young graduates in industry, the number of graduate students in the Faculty again showed a slight increase. However it appears that it would be in the best national interests to encourage a much greater number of young engineers of superior ability to proceed to graduate studies in engineering fields.

All departments in the Faculty have been active in research work and instruction at the graduate level. Members of the academic staff of the Faculty have also been active in professional capacities. Specialized technical assistance has been provided to both public authorities and industry.

Extension activities of members of the academic staff of the Faculty continued in the form of correspondence, lectures and radio talks.

In the department of electrical engineering a joint research was started into methods for assessing the aging of alternator insulating materials in cooperation with Canadian Utilities Ltd., the City of Edmonton Power Plant and Calgary Power Company. The results of this work are being published by the Canadian Electrical Association. The characteristics and applications of transistors are also being studied. The design of induction motors for use as pump motors for petroleum products has also been given attention in cooperation with various firms interested in the problem.

Studies assisted by National Research Council summer associateships have included the development of an electronic circuit for a flow meter for measuring the flow of blood in arteries, and the theory of foundation vibrations with heavy reciprocating mechanical equipment.

Assistance was also given the City of Edmonton Power Plant with an official test on a new 30,000 KW Turbo Alternator to prove its operating characteristics were within the guaranteed tolerances.

The network analyser presented to the department of electrical engineering by Calgary Power Company is in process of being installed.

In the department of mining and metallurgy two major research projects have been underway. The first of these is financed by the Atomic Energy Control Board and is a continuing program concerned with fundamental research in Driessen cone concentration of ores and its application to the refining of uranium ores. The second is financed by the Defence Research Board and is in the field of metallurgy dealing specifically with studies of alloys of titanium. These projects are actively directed by academic staff of the department but full time research staff is also engaged on both programs.

With substantial financial assistance from the National Research Council X-ray diffraction equipment has been purchased for research work in mining and metallurgy.

In the department of chemical and petroleum engineering research work has continued on four separate programs by full time members of the department staff. Three other research projects were continued in cooperation with the Alberta Research Council. The subjects of these are:

Vaporization Loss from Crude Oil,
P-V-T- Behaviour of Methane-Hydrogen-Sulphide Systems,
Rheology of Pembina Crude Oil,
Two Phase Vertical Flow,
Automatic Pyrolysis of Hydrocarbons in a Surface Combustion Reactor,
High Temperature Pyrolysis of Butane-Enriched Natural Gas, and, Molecular Sieve Adsorption of Methane and Nitrogen.

Financial support for certain of these projects was provided by Imperial Oil Limited, National Research Council and the Research Council of Alberta. One Master of Science thesis was satisfactorily completed in the chemical engineering department on the subject of one of these projects.

In the department of civil engineering research work was continued concerning studies of laminated timber girders, pre-stressed concrete beams, river hydraulics and hydraulic structures problems; chemical treatment of soils for engineering purposes, studies on the engineering properties of muskeg, the effects of certain additives on the properties of asphalt paving mixtures, vibrations in soils induced by reciprocating mechanical equipment, and the causes of and economical corrective measures for slides of wide occurrence in northern Alberta, British Columbia and the Yukon in over-consolidated clay shales. This last Project has been part of the cooperative highway research program with the Research Council of Alberta.

Financial support for certain of these projects has been provided by the National Research Council, the Research Council of Alberta, the Canadian Institute of Timber Construction, Canadian Industries Limited, and the Prairie Road Builders Section of the Canadian Construction Association.

Two Master of Science theses were satisfactorily completed on the work of certain of these projects.

Report of Dean W. F. Bowker of the Faculty of Law

The enrolment has remained about the same for a number of years. Law I—29 students, Law II—23 students, Law III—24 students. The demand for graduates still exceeds the supply. Nearly all our graduates proceed directly into a law office under articles with a view to admission to the bar. One of our graduates, a Rhodes scholar, is at Oxford University. Two other Rhodes scholars have just returned to Alberta.

This year Professor Alex Smith returned from a sabbatical leave. While on leave he completed a comparative study of legislative power over trade and commerce in Canada and the United States. His work on this subject earned for him the degree of Doctor of the Science of Law.

Mr. David McDonald on his return from Oxford was a sessional instructor for the year, and made an important contribution to the faculty's work. The question of staff is still a problem. Fortunately Mr. A. R. Thompson is to return in the fall of 1957 but it is desirable to have more full time staff members. The supply of good teachers is however small.

The scholastic year passed satisfactorily without any unusual events. The students worked well, and made good use of their fine library facilities. There

is still a need for more books in the library, but over the years we have gradually increased the number of important law reports, journals and texts. A related need which the library cannot solve is that for more student "case books". These are collections of cases for use in the different courses. To date this faculty has produced none of its own but it is hoped that we will before long. This is a most important matter for case books not only make teaching and study more effective but also take pressure off the library.

The revived Alberta Law Review seems to be on a firm basis though it is a heavy responsibility for a small student body. It has been welcomed by the profession and is of great educational value to those students who contribute or act on the editorial staff.

Our relations with the Law Society continue to be of the best. Professor Sherbaniuk took part as chairman of a round table at the annual meeting of the Society. The undersigned worked with a Law Society committee that was invited by the provincial government to prepare a report on the working of our land law in relation to oil and gas, and also was a member of a special committee of the Canadian Bar Association on Legal Research. The executive of the Law Society continued this year the practice of inviting Professor Smith and the undersigned to attend its meetings when legal education was under consideration. This is a valuable association.

Last summer Professor Sherbaniuk and the undersigned took part in three day courses of the Department of Extension—the former at Hanna and the latter at Cardston.

The faculty was involved in a problem over admission of a student. The legal proceedings which the appellant took upheld the position of the University that it has the power to decide whether to admit a student. The incident has served to clarify the University's position.

Report of Dean J. W. Scott of the Faculty of Medicine

The freshman medical class in 1956 consisted of a full quota of 60 students, although two or three of these were obtained by going slightly below the 65 percent average normally required for admission. However, these particular students seem to be in no academic difficulty. It is probable that, as in past years, a few of the first year class will be required to withdraw for academic reasons, again reflecting the insufficient number of good applicants for our faculty.

The enrolment in the Faculty of Medicine for the 1956-57 session was as follows:

	Men	Women	Total
1st Year	59	1	60
2nd Year	56	2	58
3rd Year	44	2	46
4th Year	45	4	49
	204	9	213

While no new departments were established in the past year, two existing clinical departments namely Paediatrics and Psychiatry, were placed under new heads of departments, whose appointments are full-time. This is considered to be a major step in the strengthening of teaching in the faculty.

It is with regret that we report the deaths in the past year of Dr. J. O. Baker, Honorary Professor of Obstetrics and Gynaecology and Dr. P. H. Malcolmson, Instructor in Pathology, and Assistant Clinical Professor of Radiology.

Staff changes in the past year include the retirement of Dr. D. B. Leitch as Professor of Paediatrics, and the appointment of Professor J. K. Martin to succeed him. Doctor Stanley Smith, has become the new head of the Department of Psychiatry, while the former head, Dr. S. Spaner, continues as Clinical Professor.

Dr. M. T. Fish, has been named Assistant Professor of Anatomy and Dr. Cottle, Assistant Professor of Physiology. These are both new appointments. Dr. C. Iland comes as Associate Professor of Bacteriology to replace Dr. C. R. Amies, who became Professor of Preventive Medicine succeeding Dr. M. R. Bow. Several other new appointments are pending including full-time associate or assistant professors of Surgery, Medicine, Psychiatry and Paediatrics, and assistant Professors of Physiology (Pharmacology), Biochemistry and Pathology.

New facilities are in the planning stage in various departments and it is hoped that construction will start on all these projects this year. These include a new service wing on the University Hospital which will also house an outpatient department to be used in teaching, a new wing on the Provincial Laboratory to include teaching facilities in Bacteriology, Pathology and Preventive Medicine, and a new middle wing on the Medical Building to provide space for expansion of Anatomy, Biochemistry and Physiology, as well as other schools and faculties closely associated with the Medical Faculty.

It is hoped that the latter two extensions will be ready for occupancy in 1958.

The other hospitals in and around Edmonton continue to provide facilities for clinical teaching in a most co-operative manner.

The Department of Physiology has instituted a new Honors program given in the Faculty of Arts and Science, but the staff and facilities necessary come under the jurisdiction of this Faculty.

The number of graduate students in all departments is nine. Most of these students are enrolled in the School of Graduate Studies of the University and are proceeding to advanced degrees.

Our Committee on Graduate Education has, for the past ten years, directed the training of young doctors who are specializing in various fields and who wish to take the certification or fellowship examinations of the Royal College of Physicians and Surgeons of Canada. In all, twenty-eight of these trainees have passed the certification examinations of the Royal College of Physicians and Surgeons of Canada, or American Boards. At present there are fifteen students enrolled in this program which demands, and receives, excellent co-operation among all the clinical and basic science departments in the Faculty.

The Committee on Continuing Medical Studies has this year instituted a new type of training. In addition to the travelling teams of doctors that visited twelve different Alberta centers as in past years, there were four short courses of two or three days duration covering such topics as Electrocardiography, Orthopedic Surgery, Surgery and Obstetrics and Gynecology.

Each course had a limited registration, and in every case it was necessary to refuse some applicants. This type of teaching is to be continued in the future in view of the great success of the initial efforts.

The Canadian Medical Association annual meeting is to be held in Edmonton in June, so it was felt to be unwise to hold our usual refresher course this spring.

Another new service to the Medical Practitioners of this Province is the recent establishment of a Human Heredity Counselling Service. This Service will allow practitioners to consult with a committee of members of the University Staff whenever they meet with problems in heredity with which they feel themselves unable to cope.

A very major portion of the efforts of members of the staff of the Medical Faculty in the past year has been devoted to a complete revision of the Medical curriculum. To keep providing students with the best medical education possible it is found necessary to change methods and emphasis periodically as medical knowledge advances. The present change is directed towards bringing the students into contact with patients as early as possible while still retaining a good groundwork in the basic sciences which are so necessary for the understanding of the diseases with which the doctor must deal.

The type of teaching will change somewhat to emphasize small group teaching with maximum student participation. Teaching exercises in which teachers from various clinical and basic science disciplines will all take part and discuss signs or symptoms, or disease entities, will be employed to a markedly increased extent, and throughout the training the student will be brought into close contact with as many patients as possible.

The Medical Faculty would like to acknowledge at this time the cooperation of the administration of the University in making funds and facilities available for these changes.

In spite of the above noted calls on the time and efforts of the members of our faculty they have still succeeded in carrying out an extensive program of research, which, as the appended list of publications will show, covers a very wide variety of problems. This research continues to supply to our faculty members the stimulus which is so necessary in the production of alert, interested and stimulating teachers.

As in the past this research would be impossible without the continuing financial aid of such organizations as the Alberta Division of the Canadian Cancer Society, the National Cancer Institute, the National Research Council, the Defence Research Board and the Medical Research Fund of the University of Alberta.

Other organizations that have helped the faculty financially in the past year are the Edmonton Civil Servants Association, and the Muttart Foundation.

Various members of our staff have taken part in scientific meetings in Alberta, in other parts of Canada and abroad. They have acted as officers of the Association of Canadian Medical Colleges, The National Cancer Institute, the National Research Council, the Defence Research Board, The American College of Physicians, The American College of Surgeons, the Royal College of Physicians and Surgeons of Canada, the Canadian Medical Association, and the Medical Council of Canada.

The following distinguished scientists visited our faculty in the past year, and spoke to the students and staff:

Dr. T. W. M. Cameron, Head of the Department of Parasitology, McGill University.

Dean Brian W. Windeyer, Middlesex Hospital Medical School.

Dr. Alastair Macgregor, Lecturer in Therapeutics, Edinburgh University.

Dr. M. L. Barr, Department of Microscopic Anatomy, University of Western Ontario.

Sir Geoffrey Keynes, Simms 1956 Travelling Professor.

It will be noted that the Medical Faculty continues to improve its facilities and staff and to change with the changing Medical and Educational worlds. We continue in our primary aim of graduating the best possible medical doctors to serve this province and where possible of continuing to train them, either as specialists, or in short courses sponsored by our faculty. Our secondary aim is to advance the frontiers of medical knowledge, and in so doing to keep our staff alert to change, and as enthusiastic as good teachers must be.

Report of the School of Nursing

During the year under review the School of Nursing has operated with considerable success in spite of many difficulties. A high standard of teaching has been maintained in all the courses of instruction offered, and the student body, both graduates and undergraduates, has worked well and shown satisfactory development.

No important changes in the curricula were introduced. Teaching by the staff members was supplemented when necessary by sessional instructors and guest lecturers. As in previous years, field experience has been made available by affiliation with certain hospitals or by the helpful cooperation of the health and welfare agencies.

The total enrolment was 146. The separate figures for each class and post-graduate course are given at page 39.

Administration

A full meeting of the Council of the School of Nursing took place in October 1956 and again in May 1957. As the post of Director remained vacant, the general administration was undertaken by a small executive committee consisting of the teaching staff and a few members of the Council. No serious difficulties were encountered.

Staff

The resignation of Miss I. M. Reesor, Assistant Professor of Nursing since 1950 and administrative secretary throughout the year under review, has been accepted with much regret.

Miss R. E. McClure was appointed Assistant Professor of Nursing in September 1956. She has now been appointed Director of the School with effect from September 1st, 1957.

Miss K. M. McKnight was appointed Sessional Lecturer for the courses in Teaching and Supervision.

The course of studying leading to the Certificate in Advanced Practical Obstetrics was given, as before, by Miss R. S. Tasker.

In addition to their normal duties these members of staff have taken part in many nursing activities both on the campus and away from it. A list of these activities is given in the Appendix.

Student Activities

The valuable features of university life are not always appreciated by the students. Attempts were therefore made to foster a corporate spirit by encouraging them to take part in University activities such as the Guest Weekend. A number of social evenings were also organized successfully.

Teaching Institute

In March, a special teaching institute on the subject of maternal and child health was conducted by a guest lecturer from the United States. Both students and staff attended these exercises which were much appreciated.

APPENDIX

STAFF PARTICIPATION IN NURSING

1. *Conference—Civil Defence*

"Integration of Civil Defence lectures in the Undergraduate Program."

One week—Arnprior, Ont.—October 1956 Miss R. McClure

2. *Workshop*

"Staffing Patterns for Hospital Departments of Nursing Necessary to Ensure Good Nursing Care."

Three days—January 1957—Edmonton Miss R. McClure
and Miss K. McKnight

(The Teaching and Supervision Students also participated in this workshop)

3. *Work Conference—Subcommittee on Nursing Education.*

Northern, Central and Southern Branches.

Three days, March 1957—Edmonton Miss R. McClure, Miss K. McKnight,
Miss I. Reesor

4. *Conference of the Western Region*

Canadian Conference of University Schools of Nursing.

One day—January 1957—Saskatoon Miss R. McClure

5. *Institute—Material and Child Health*

Ten days—March 1957—Edmonton Miss R. S. Tasker, Miss R. McClure,
Miss K. McKnight, Miss I. Reesor

6. *Career Conferences*

"Nursing"

(a) C.G.I.T.—United Church Miss R. McClure

(b) Three High School Groups Miss I. Reesor

(c) Varsity Guest Weekend Miss R. McClure
University of Alberta School of Nursing Miss K. McKnight
University of Alberta Hospital School of Nursing Miss I. Reesor

7. *Association of Registered Nurses*

Miss R. McClure —2nd Vice President October 1956.

Miss I. Reesor —Chairman—Committee for Student Assistance Grants.
—Member—Committee Legislation and Bylaws.
—2nd Vice President—Edmonton District.

8. *Association—Canadian Red Cross (Alberta Division)*
Miss I. Reesor—Member—Committee on Nursing Service.
9. *Alberta Civil Defence*
Miss I. Reesor—Member—Committee on Nursing.

Report of Dr. J. R. Fowler, Director of the School of Physiotherapy

The Director of the School of Physiotherapy is pleased to present the third annual report on the activities of the School.

The year 1956 was a memorable one, in that the first graduating class in Physiotherapy received their diplomas at the fall convocation. There were fifteen successful candidates out of the original twenty-one enrolled in 1954. The graduating class was honored, by the Faculty Council of the School, with a formal dinner in Athabasca Hall. The Physiotherapy Book prize was presented to Miss Hurst for obtaining the highest standing in the final year. The Director was pleased to receive on behalf of the School, a full sized picture of the graduating class from the class representative. The evening was successfully concluded with a talk by Doctor Carpendale.

The graduating class have all been placed in the three western provinces, and there are still many vacancies.

There are seventeen students at present completing second year work, which includes summer internships in approved institutions in the four western provinces. In first year, there are twenty students preparing for the final examinations and their summer internships in Alberta.

The Instructors in Physiotherapy have done an excellent job in handling these thirty-seven students, despite being understaffed. We are hopeful that the establishment will be brought up to strength within the next year.

The local hospitals have shown increasing interest in the School, and it is gratifying to note that students may now be placed in a sixth major institution in Edmonton for the undergraduate hospital work. This coming term will see a seventh hospital opening a department which will also handle the undergraduate students.

Report of Dean M. J. Huston, of the Faculty of Pharmacy

Academic

Total enrolment in the Faculty during the session was 123. This was made up of 46 in first year, 40 in second year and 37 in third year. In addition there were four graduate students undertaking work towards the M.Sc. degree.

A change in the entrance requirements for pharmacy has been approved with the elimination of a period of practical training before college entrance.

A new award has been made available with the presentation of a book prize by the Canadian Pharmaceutical Association to an outstanding student in second year.

A new graduate course in radioactive tracer techniques was offered for the first time. This is Pharmacy 102 which is a companion course to Pharmacy 101 previously available.

A course in physics has been approved as an option in the third year.

Ten members of the staff of the College of Pharmacy, University of Saskatchewan visited the campus. The Dean, Faculty of Pharmacy, University of

British Columbia also attended. Two days were spent in tours of the facilities and in discussion of teaching and research problems.

Dr. Riedel gave a number of lectures to the class of Public Health Nurses and to the Medical students in Pharmacology.

Dr. Murray lectured to the Public Health Nurses on certain aspects of the Narcotic problem.

Dr. Riedel attended a one month course at the Oak Ridge, Tennessee, Atomic Energy Institute of Nuclear Studies on the Biological Applications of Radio-isotope Techniques. A Provincial Public Health Grant was given Dr. Riedel to cover the expenses of this course.

Extension and Non-academic Activities

The Faculty again conducted a refresher course in conjunction with the annual convention of the Alberta Pharmaceutical Association in Edmonton.

Four bulletins on recent advances in pharmacy were prepared by the staff and distributed by the Alberta Pharmaceutical Association to all practising pharmacists in the province.

A series of refresher course lectures was presented at eight centres throughout the province during the Fall. Expenses were paid by the Alberta Pharmaceutical Association and the Canadian Foundation for the Advancement of Pharmacy. Meetings were held in Edmonton, Vermilion, Red Deer, Stettler, Camrose, Calgary, Lethbridge and Medicine Hat. Approximately 300 pharmacists attended.

Dr. Murray continued his activities as Editor of the Bulletin of the Canadian Conference of Pharmaceutical Faculties. He undertook research work during the summer with the Defense Research Board at Suffield Experimental Station. He was also appointed chairman of a committee of the Canadian Conference of Pharmaceutical Faculties to prepare a chart of antidotes for poisons and as a result of this work the Canadian Pharmaceutical Association has printed a large number for distribution throughout Canada as a public service. Dr. Murray continued his work as a cubmaster and served on the executive of the Parkallen Home and School Association.

Dr. Riedel again served as an abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica*. He was appointed the Commanding Officer of the University Reserve Squadron and promoted to the rank of Wing Commander. He was appointed chairman of the Teachers' Conference section of the Canadian Conference of Pharmaceutical Faculties.

Dr. Huston continued as a member of the Editorial Advisory Board of the Canadian Pharmaceutical Journal and was named Editor of the Scientific Section of that journal. He completed his year as president of the Edmonton Kiwanis Club and was named a Lieutenant Governor in the Western Canada Division of Kiwanis.

Professor Anderson studied during the summer at the University of Washington on work leading towards the Ph.D. degree.

The pharmacy department took an active part in Varsity Guest Weekend and had many interested visitors. Displays showing drug extraction procedures, fluorescence, tablet manufacture and compounding of prescriptions were conducted by the students. A display of ancient versus modern pharmacy also attracted much attention.

Staff members presented papers to professional societies, service clubs and similar groups as follows:—Dr. Murray 5; Dr. Riedel 7; Professor Anderson 5; and Dr. Huston 16.

Research

Four students worked during the year towards M.Sc. degrees with research problems in the field of pharmacology. Two of these students completed the requirements and will continue their studies at the University of Michigan.

Professor Anderson continued his investigations in the field of pharmaceuticals and in the measurement of blood levels of patients receiving para-aminosalicylic acid. He also carried out a survey of prescriptions in the Edmonton area.

Dr. Murray and Dr. Huston collaborated on the effects of anti-hypertensive drugs on the tissue respiration of normal and hypertensive rats. Dr. Huston also investigated the effect of certain cardiovascular drugs on tissue respiration.

Dr. Riedel continued his research in the use of isotopes in experimental biochemistry. A study was made of the uptake of radioactive zinc by the sex glands of the male rat. This work was supported by a National Research Council grant.

Other problems being investigated in the department included:— chemical synthesis of sulfanilamide labelled with S^{35} ; studies on alkaloidal separation methods; paper chromatography of barbiturates; polarographic measurement of arsenic and lead; effect of nembutal and antihypertensive drugs on the measurement of blood pressure of experimental animals; the effect of temperature on the miscibility of glycerin, phenol and water; the effect of certain drugs on the *in vitro* oxidation of epinephrine; the *in vitro* evaluation of antacids; photomicrography studies of emulsions; analysis of pharmaceuticals for vitamin content.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

During the Session 1956-57 the University announced the offering of a new degree, the Bachelor of Physical Education. This change from the Bachelor of Education in Physical Education to the Bachelor of Physical Education is extremely important in the field of both recreation and physical education since it provides a three year course for those wishing to go directly into recreation and allows for more adequate concentration on teacher education through a fourth year for those planning to teach. Both the students and the citizens of the province will be more efficiently served by this new arrangement.

Staff members have continued to engage in advanced study. Associate Professor W. D. Smith was awarded the Doctor of Education degree from the University of Buffalo at the February Convocation. Mr. A. F. Affleck has completed all the requirements for the master's degree from the University of Indiana and Mr. Stephen Mendryk has started graduate study at the University of California.

Extension Services. School of Physical Education academic personnel have had an extremely busy year in community, provincial and national affairs. Participation has taken the form of instruction, supervision, executive positions, committees and work shops. Groups served include the Canadian Welfare Council, Alberta Provincial Recreation Board, Alberta Basketball Association,

Edmonton Y.M.C.A., Alberta Community Recreation Bureau, St. John Ambulance, Boy Scouts, Canadian Association of Health, Recreation and Physical Education, Council of Community Services, Alberta Red Cross, Alberta Camping Association and the Amateur Athletic Association of Canada.

Degree Course. Sixty students are currently registered in the physical education degree patterns; sixteen in the Bachelor of Education in Physical Education and forty-four in the Bachelor of Physical Education. Twenty-six of these students are in first year, indicating the popularity of the Bachelor of Physical Education degree and the increased interest in Physical education as a profession.

Education Students. Four different instructors in the School were responsible for the Health Education and Physical Education sections in the Faculty of Education. There were a total of sixteen sections of approximately forty students each, representing thirty-two periods of instruction. These classes continue to be too large for the instructional space provided.

Service Program. This first year course required of all students had a total registration of eight hundred and twelve (812) students and they were distributed through twenty-four sections representing forty-eight teaching periods. Until new facilities are available this program will be considerably less efficient and productive than normally anticipated.

Intramural Sports. The intramural program continues to grow within the limits of facilities and supervising personnel. Participation results for 1956-57 follow:

MEN			
	1955-56	1956-57	
Number of Sports	10	11	
Number of Teams	122	142	
Number of Games Played	610	698	
Number of Participants	1792	2320	
WOMEN			
	1955-56	1956-57	
Number of Sports	8	8	
Number of Teams	71	65	
Number of Games Played	252	240	
Number of Participants	947	875	

Intercollegiate Athletics. Of the twelve sports engaged in by the students, seven were coached by faculty members in the School of Physical Education. The University of British Columbia has, once again, expressed an interest in returning to W.C.I.A.U. competition. This possibility is to be carefully investigated during the 1957-58 session.

General Statement. The increased demands for graduates in physical education, the recreational needs of the students and the serious problem of physical fitness and worthy use of leisure time in Canadian society demand increased efforts on the part of all Canadian universities in the fields of recreation and physical education. The University of Alberta's immediate plans for staff, program and facilities should provide the opportunity for Alberta to lead the nation in these two fields.

Report of Dr. A. L. Doucette, Director of the Calgary Branch

1. General Items:

(a) *Student Enrolment*

During 1956-57 there was an increase in enrolment among the overall day-time students at the Calgary Branch amounting to 10% over the figure of 1955-56. We have found that the present enrolment in Arts and Science and in Education is taxing the physical plan here to the limit. This is especially true in the evening division for credit and non-credit purposes during which time the building in the main premises on the North Hill is taxed to the limit.

(b) *Grounds and Premises*

During the summer the heating plant in the Education Building is to be renovated to improve the general ventilation in the building.

In the coming year of 1957-58 plans are being made to accommodate the first year of Engineering with a limitation of sixty students. No additional lockers were provided for in the estimates last fall because of the impossibility of putting these lockers any place in the present premises.

(c) *Closing Exercises*

This year the Closing Exercises were held on April 10, 1957, at which time an all-time record was established in the numbers attending the Exercises as well as the tea immediately after the Exercises. Visiting officials from Edmonton included the President; Dr. Johns, Dean of Arts and Science; Dr. H. T. Coutts, Dean of Education; Mr. A. B. Evenson, Associate Director of Curriculum, Department of Education. Dr. E. P. Scarlett, Chancellor of the University, acted as Chairman of the Exercises. It is anticipated that the Closing Exercises will be held in the new Civic Auditorium in April 1958.

(d) *Open House:*

This year it was again decided to dispense with Open House mainly because of the publicity the University in Calgary is receiving through press, radio and television.

(e) *Radio Talks:*

Students and staff contributed to radio publicity again this year.

(f) *Teachers' Conventions:*

The Staff of the Faculty of Education assisted generously in speaking at Alberta Teachers' Association conventions in the southern part of the province.

(g) *Career Days:*

The staff members in Arts and Science, and Education assisted at Career Days in and out of the City of Calgary again this year.

(h) *Teacher Recruitment Meetings:*

Dr. J. G. Woodsworth and Dr. J. D. Aikenhead attended Teacher Recruitment meetings in Calgary.

(i) *Western Canada Conference in Teacher Education:*

Dr. Woodsworth and Mr. Lindstedt attended the May 1956 conference and the representatives for the May 1957 conference in Saskatoon will be Dr. J. D. Aikenhead and Mr. S. A. Lindstedt.

(k) *University of Alberta in Calgary:*

As of February 1957 the Calgary Branch of the University became officially

known as the University of Alberta in Calgary according to a minute passed at a Board of Governors meeting February last.

(1) *World University Service:*

The Treasure Van sale was held in Calgary again and the receipts of the sale were quite significant. We are not sending an overseas delegate this year but will give consideration to such representation to an overseas conference in the summer of 1958.

2. *Special Reports:*

(a) *Faculty of Arts and Science:*

Dr. V. E. Graham acted as assistant to the Director and supervised the Arts and Science departments here in Calgary.

In Arts and Science Dr. Graham reports that enrolments in 1956-57 were up slightly in all branches except the B.Sc. in nursing, where the number of students dropped from 13 to 1. Total enrolment was about 100 although there were fewer withdrawals this year than last year.

In the Arts and Science staff, full-time lab assistants were named in Chemistry and Biology instead of half-time assistants as last year. In addition, a part-time instructor in Geology was appointed and Prof. L. H. Nichols came to Calgary for a year of post-retirement instruction in Physics replacing Mr. M. C. Martin who went to the Naval Research Establishment in Halifax.

The Humanities Association and the French Alliance have continued to meet at the University. Membership in the former group has dropped off a little but an interesting group of speakers appeared during the year with two speakers from the University staff in Edmonton.

The French Alliance met once a month at the University and among special programs were the visit of a visiting speaker from France and the presentation of the French play "Le Bal des Voleurs" which was put on by the French Department in Edmonton.

Dr. G. M. Self and E. M. Guy undertook a series of classes in English for Hungarian refugees. These classes met four times a week over a period of nine weeks.

During the year Dr. V. E. Graham in French published two articles and a review which are listed separately in a report of the Department of Modern Languages.

(b) *Faculty of Education:*

A separate report has been submitted to Dean Coutts covering the work of the Faculty of Education at the University of Alberta in Calgary.

3. *Advisory Services*

The following are some samples of guidance problems which have occupied counselling time in Calgary during the past academic year. Such services are offered at Calgary by one counsellor in the same way that Advisory Services functions in Edmonton with three counsellors.

- i. Suggestions for improving learning efficiency;
- ii. Advice to former students on suitability for graduate work;
- iii. Interviewing students who are applying for loans under the Students' Assistance Act;

- iv. Helping students, through counselling therapy, to solve or adjust to such personal problems as:
 - a. feelings of inadequacy which interfere with study or examination writing,
 - b. home problems,
 - c. boarding house problems,
 - d. severe neurotic or pre-psychotic disturbances, in which case reference is made to the Provincial Guidance Clinic,
 - e. marriage plans,
 - f. planning courses for the following year.

It is estimated that well over six hundred scheduled and unscheduled interviews have been held by the Counsellor during the academic year 1956-57. In addition, during this last year counselling services were provided during the months of May, June and part of August, mainly for young men and women who were planning to attend the university either in Calgary or Edmonton. The Counsellor in Calgary has also attended Career Days in Calgary Schools and has participated in radio and television programs as a means of acquainting the people of Southern Alberta with the offerings of the University of Alberta.

4. *School of Physical Education in Calgary*

In addition to the physical education service program offered to the students enrolled in the Arts and Science program, the physical education courses offered to the Education students and the professional courses in physical education offered in both the Bachelor of Education and the Bachelor of Physical Education program, the School of Physical Education conducted an extensive extra-curricular program. This latter may be broken down into the two sections of intra-mural and extra-mural participation.

The intra-mural program included such activities as the following for both men and women: basketball, volley-ball, badminton, curling, and table tennis. The aims of this included wide participation, helpful exercise, knowledge of the skills and rules of the various games, and an overall display of good sportsmanship. This program was augmented by the addition of hockey and football for the men. Approximately 80% of the student body took part.

The extra-mural phase of the work included full participation in the C.I.A.A. (Calgary Intercollegiate Athletic Association—including Mount Royal College, Institute of Technology and Art, Olds Agricultural School, and the University) in the following for men and women; basketball, volley-ball, curling, badminton. The men also played hockey and football. In addition to participation in the leagues and tournaments sponsored by this body, the University also had a home and home series with Lethbridge in men's and women's basketball. The School of Physical Education also handled the athletic and sports part of the Education trips to Edmonton and return (Operations Igloo and Teepee).

The athletic program was very wide and operated on a sound philosophical basis which was at all times cognizant of such major attributes as academic standing, sportsmanship, and general all-round citizenship. In addition to this the University was very successful in securing some of the major awards in the various competitions.

5. *Library Report:* (see also report of the Chief Librarian which includes a report on the library at the University in Calgary.)

Miss Grant reports that statistics in the main would indicate steady increase in the use of the library and its resources, e.g.

Overnight Stacks: 9.8% increase over 1955-56
64.9% increase over 1952-53

Overnight reserves: 18% increase over 1955-56
84% increase over 1952-53

Reading Room reserves: 41% increase over 1955-56
70% increase over 1952-53

Attendance: 10 % increase over 1955-56
23.7% increase over 1952-53

The sudden illness of the Librarian at the beginning of September precipitated a difficulty which was heightened by a new member of staff, Miss Douglas, going to National Research Council. The library committee and Mrs. Kettner took prompt measures and co-operation was forthcoming. Calgary Public Library permitted Miss Drummond, our new circulation desk assistant, to come to us as quickly as possible and the former members of the library staff came back to assist.

The library committee met several times during the year. Its attitude towards an evaluation of the various services is always helpful. A policy concerning the appropriations for multiple copies of texts and relation of school book collections to that of the central library was discussed along with periodical lists, accousticizing of library, etc.

The library year has been a successful one with increase in resources in the various circulation services and, above all, more reading than ever.

6. *Extension Courses:*

The Petroleum Industry Training Service (PITS) is not handled directly in the building due to lack of space. However, the men in charge of PITS visited us and will use our building when we have the accommodation.

Extension courses in 1956-57 have increased till the classroom space is used to capacity. The clerical assistance needed has been resolved by the Director and Professor Campbell of the Extension Department with arrangements completed for help in the year 1957-58.

There were 14 courses offered from the end of October to the end of April with registration approximately 30 in each course. The Managing Investment course held in the Palliser Hotel enrolled 66 and was the most popular of all the courses.

7. *Evening Division for Credit:*

Three courses were offered in Calgary for credit, Accounting I, Education 492, and English 70. These courses proved popular and they would appear to be a distinct service to business people and teachers in service who wish to improve their qualifications or to earn credits for a degree. This is particularly true of Education 492 where a number of city teachers required this course in order to move forward or to complete their Bachelor of Education degree.

Report of Dr. J. W. Gilles, Director of the Summer Session

1. Registration and Attendance

The advance registration for the 1956 Summer Session reached a total of 2361. Of this number, 463 students failed to attend so that the actual enrolment amounted to 1898, an increase of about 13% over that of the preceding year. To this number must be added another 202 students who were registered in the Emergency Teacher Training Program, and 67 registered in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1956 Summer Session was 2167 compared with 1834 last year. A summary of the attendance figures follows.

Summary of Attendance

Education	609	939	1548
Arts and Science	87	35	122
Graduate Studies	101	20	121
Commerce	2	.....	2
Household Economics .....	.....	6	6
Nursing .....	.....	8	8
Pharmacy	6	.....	6
Engineering	11	.....	11
Specials	23	50	73
Auditors	1	.....	1
	840	1058	1898

Emergency Teacher

Training Program

First Session Students	74	
Second Session Students	59	
Third Session Students	69	
	202	202

Leadership Course for

<i>School Principals</i>	67
	2167

Of the 1898 students who attended the regular Summer Session, approximately 82% were registered in the Faculty of Education, and about 6% in each of the Faculty of Arts and Science and the School of Graduate Studies. The remaining 6% were distributed through various schools and faculties or were registered as special students. There was a noticeable increase again this year in the number of students who registered in the Faculty of Arts and Science, 122 as compared with 97 in 1955, and only 73 in 1954.

The number of special students reported in the above summary is unusually large. This is due to the fact that it includes a group of about 30 students who were registered in a special non-credit course in Indian-Eskimo Education which was sponsored jointly by the University and by the Federal Departments of Northern Affairs and National Resources, and Citizenship and Immigration.

With respect to the Emergency Teacher Training Program, it might be noted that only 74 students registered for the First Session of that program as compared with 89 last year and 132 in 1954.

2. Instructors

The Summer Session teaching staff, including that of the Emergency Teacher Training Program, was comprised of a total of 108 instructors, nine more than in 1955. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time Members of University Staff	62
Instructors from Affiliated Institutions	1
Guest Instructors from Alberta:	
Department of Education	1
School Systems	16
Others	6
	— 23
From Other Provinces	4
From U.S.A.	17
From France (on teaching fellowship)	1
	— 45
	— 108

Visiting instructors from outside the Province included the following:

Dr. W. J. Bruce	Lower Columbia Junior College, Longview, Washington
Dr. Raymond G. Carey	University of Denver
Dr. Paul A. Carter	University of Maryland
Mr. Charles Conrad	Neighborhood Playhouse School of the Theatre, New York City
Dr. Maurice F. Freehill	Western Washington College of Education, Bellingham
Dr. Louis V. Grafious	Eastern Washington College of Education, Cheney
Dr. Mildred A. Groht	Lexington School for the Deaf, New York City
Miss Frances F. Hanson	Fairmont Public Schools, Minnesota
Miss Lois Ann Hanson	Albert Lea Public Schools, Minnesota
Mr. John A. Irving	University of Toronto
Dr. Tom L. McKnight	University of Texas
Mr. Maurice H. E. Rabotin	Teaching Fellow from France
Dr. Cecilia U. Randall	Geneva, Ohio
Dr. Edwin A. Read	University of Oregon, Eugene
Dr. Herman Roemmich	U.S. Naval Research, San Diego
Miss Carlene Rose	Fresno State College
Dr. Jack Shaw	Colorado State College of Education, Greeley
Dr. Gordon W. Snelgrove	University of Saskatchewan
Mrs. Verda Town	Swift Current Public Schools
Miss Esther R. Veen Huis	Holland Public Schools, Michigan
Mr. Harold V. Weekes	Mount Allison University
Miss H. Patricia Wyatt	Fresno State College

3. Courses

A total of 105 credit courses, an increase of 16 over last year, were offered in the 1956 Summer Session — 92 for students in the regular session, and 12

for those in the Emergency Teacher Training Program. Thirty of the courses offered had laboratory requirements which varied from 5 to 15 hours per week. Use was again made of the shops at Victoria Composite High School for offering courses in Industrial Arts.

4. *Size of Summer Session Classes*

A definite attempt was made this year to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected here fell into two classes: Those where specialized equipment needed for teaching was available in limited quantities; and courses in the fields of History, English, and Elementary Education. Generous quotas, plus a more generous provision of courses in these areas than in previous years, provided assurance that students' needs were adequately met. In the cases of certain popular courses, especially where these required courses in certain degree programs, multiple sections were provided.

The following table shows the distribution of Summer Session classes according to size.

Distribution of Classes According to Size

Size of Class or Section	Frequency
10 students or less	4
11 to 40 students	70
41 to 60 students	17
61 to 80 students	18
81 to 100 students	1
Total	110

In the 1956 Summer Session, the average class load was 35 students per instructor as against 33 in 1955.

5. *Special Events Program*

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of three lectures and one musical program. The speakers in the lecture series were: Dr. Mildred Groht, who gave an illustrated lecture entitled "That the Deaf May Speak"; Dr. Raymond Carey, from the University of Denver, who spoke on "Education for International Understanding"; and Miss Maimie Simpson who also gave an illustrated lecture on "Ireland, Land of Enchantment". The musical program was the traditional Choral Recital presented by the combined music classes of the Summer Session under the direction of Mrs. Verda Town and Mr. Howard Barnett. Guest soloists on this program were Miss Lillian Ash, Contralto, and Mr. Bruce Pinkney, Violinist. Attendance at the lectures, especially the illustrated lectures, was very good; that at the Choral Recital excellent.

The Rutherford Library again sponsored a series of five weekly recorded programs of music and plays which were presented in the music listening room.

A Service of Worship was held in Convocation Hall on Sunday, July 22, with the Reverend D. J. Elson, Dean of St. Stephen's College, as Minister in charge.

6. *Leadership Course for School Principals*

Perhaps the most unique feature of the 1956 Summer Session was the non-

credit short course in educational leadership for school principals which was held at Concordia College for three weeks, July 9-27. The idea for this course was first proposed by the Provincial Advisory Committee to the CEA-Kellogg Project. The course was actually developed and promoted through the joint efforts of the University, the Department of Education, The Alberta School Trustees' Association, and the Alberta Teachers' Association.

Participants in the course were 67 school principals, 64 from Alberta and one each from the provinces of Manitoba, Saskatchewan and British Columbia. The Alberta principals were nominated for the course by their employing boards; the out-of-province principals by their respective provincial teachers' organizations. The costs for the course were met by the organizations which nominated the principals. In addition, the CEA-Kellogg Project donated \$1,000 towards the operation of the course and the Alberta Teachers' Association provided the services of a special consultant for one week.

Members of the course devoted their entire day to it and were required to live in at Concordia College. A typical day's activities consisted of a keynote lecture by a guest speaker, small group study, and individual study.

The Leadership Course was administered by a director, Mr. Walter Worth, Assistant Professor of Education, who was appointed by the University. The instructional staff for the course consisted of six full-time consultants, two special consultants, and ten special guest lecturers, most of whom were recruited from the Summer Session teaching staff.

The course, which was enthusiastically received by the participating principals, appears to have been an outstandingly significant educational experience for them.

7. Concomitant Activities

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization, were given between the hours of 3:00 and 5:00 p.m. Approximately 50 teachers completed the courses this summer as compared with 60 last year and 120 in 1954.

Tuberculin Skin Testing Program

Approximately 700 Summer Session students were given the Tuberculin Skin Test in a testing program organized by Dr. G. R. Davison, Director of the Division of Tuberculosis Control, Department of Health. Those who reacted positively to the test were later given X-Ray examinations.

Report of Dr. J. W. Gilles, Director of the Evening Credit Program

Change in Administration

While university courses for credit had been offered in the evening in Edmonton in a rather sporadic manner for several years, it was not until 1952 that a formal program of such courses was organized by the Department of Extension as part of its Evening Division activities. Beginning that year with six classes operating in Edmonton and one in Calgary, the program, by 1955, had expanded to the point where the University deemed it advisable to establish

a separate authority to administer it. The new organization, known formally as the Evening Credit Program, emerged early in 1956.

The status of the Evening Credit Program is similar to that of the Summer Session. It operates under a separate vote and has its own budget. In academic matters, it is responsible to General Faculty Council through a standing committee of that Council. The program is under the immediate supervision of a Director.

Program and Registrations

In 1956-57, courses were offered in seven centres: Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer, Camrose, Vegreville. This was the first year that a course was given in Camrose. Arrangements were completed for a course at Drumheller, but a class failed to materialize.

The salient features of the program are set forth in the following summaries.

Centres, Courses, and Registrations

Centre	Courses Offered	Registration
Edmonton	10	274
Calgary	3	43
Lethbridge	1	18
Medicine Hat	1	24
Red Deer	1	19
Camrose	1	33
Vegreville	1	17
	—	—
	18	428
	—	—

Distribution of Students by Faculties and Schools

Faculty or School	Registration
Education	310
Arts and Science	45
Graduate Studies	21
Commerce	8
Agriculture	1
Physical Education	1
Nursing	6
Special	36
	—
	428
	—

In Edmonton, where a relatively large number of courses was available, only about one student in five registered for more than one course—this in spite of the fact that the lecture schedule was arranged so as to meet the probable needs of students who might have wished to take more than one course.

It is probably safe to say that outside the city of Edmonton almost 100% of the students who took courses were teachers. No information is available as to the occupational status of students who took courses at Edmonton, but it is very likely that not less than 90% of these were teachers.

A course in Accounting 1 was offered at both Edmonton and Calgary. Students registered for that course were accommodated in Accounting classes

organized by the department of Extension for the Society of Industrial and Cost Accountants.

Teaching Staff

The teaching staff of the Evening Credit Program consisted of twenty instructors. In Edmonton and Calgary, all classes, except those in Accounting 1, were taught by instructors drawn from the University's regular teaching staff. In Lethbridge and Medicine Hat, the instructors were recruited from the local high school staffs. For the courses offered in Camrose, Red Deer and Vegreville, it was impossible to find instructors locally. The classes in those centres were taught by instructors who resided in Edmonton.

The most vexatious, and at the same time, the most critically important problem confronting the Director is that of procuring competent instructors for courses at centres other than Edmonton and Calgary. At the present time, Lethbridge, and to a less degree, Medicine Hat and Red Deer, seem to be the only centres where it is possible to recruit instructors with qualifications acceptable to the heads of the various University teaching departments. Even in these centres, the number of prospective instructors with minimal qualifications is so small that it is impossible to offer over a period of years a moderate variety of courses.

Evening course centres established within a radius of about fifty miles of Edmonton and Calgary can be serviced with instructors resident in those centres. However, this arrangement has some disadvantages. First, courses offered under these circumstances are expensive to the University because of the travel costs involved. Second, and more seriously, these courses make inordinate demands on the time of instructors. Generally speaking, members of the University teaching staff are reluctant to accept out-of-town teaching appointments because they feel they simply cannot afford the time required for commuting.

In general, it might be said that, under prevailing conditions, the principal factor limiting the operation of the Evening Credit Program is the difficulty of securing competent instructors.

Report of Dr. O. J. Walker, Director of the School of Graduate Studies

There have been four meetings of the Council of the School of Graduate Studies for transacting business that needed to come to its attention during this academic year. This is two less than in previous years due to the fact that regulations and procedures formulated earlier have reached the stage where they seem to be reasonably satisfactory for operating the business of the School.

During the year, additional departments have been authorized as adequate to present Ph.D. programs. Consideration has been given to one application for a Doctor of Science.

Registration

The total registration for the academic year was 377 consisting of 138 in the Summer Session and 239 in the regular session. After allowing for 43 registered in both Sessions, the net registration was 334. This was a decrease of seven "Provisional Graduate Students", so there was actually a gain of 16 who were working for degrees. There were 29 women in the regular Session,

about 12% of the total. The distribution of students according to Session and degrees sought was as follows:

	Regular Session	Summer Session	Total	Dupli- cates	Total less Dupli- cates	%
Master of Arts	34	11	45	2	43	15.2
Master of Education	70	112	182	33	149	52.6
Master of Science	72	1	73	0	73	25.8
Doctor of Philosophy ...	18	3	21	3	18	6.4
Working for degrees	194	127	321	38	283	
Provisional Graduate Students	45	11	56	5	51	
Total	239	138	377	43	334	

It will be noted that 112 of the 138 students in the Summer Session were working for the M.Ed degree. During the regular Session, candidates were proceeding to advanced degrees in twenty-six Departments or Divisions as follows:

Animal Science	5	Mathematics	4
Bacteriology	1	Medicine and Clinical Medicine	1
Biochemistry	5	Mining and Metallurgy	1
Chemical Engineering	10	Modern Languages	1
Chemistry	8	Pharmacy	3
Civil Engineering	11	Philosophy and Psychology	12
Educational Administration	1	Physics	2
Educational Psychology	16	Physiology	2
Electrical Engineering	3	Plant Science	15
Elementary Education	8	Political Economy	7
English	6	Secondary Education	49
Geology	7	Soil Science	5
History	8	Zoology	3
Total			194

The 18 candidates for the Ph.D. degree were distributed as follows:

Animal Science	1	Mathematics	1
Biochemistry	2	Physics	1
Chemical Engineering	1	Plant Science	6
Educational Administration	1	Secondary Education	2
Educational Psychology	1	Soil Science	2

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There will be a sharp increase in Ph.D. candidates next year chiefly due to the implementation of the graduate program in Educational Administration and Supervision.

Recommendations for Degrees

The Degrees awarded at the November 1956 and May 1957 Convocations were 57 made up of:

		%
M.A.	11	19.3
M.Ed.	10	17.5
M.Sc.	31	54.4
Ph.D.	5	8.8
Total	67	

As was pointed out last year candidates for the M.Ed degree take much longer to complete their program than do those who are registered for the M.Sc. degree. Of the 149 candidates for the M.Ed. only 10 completed the requirements. There is quite a backlog of students working for the degree who have completed all of their courses but have not yet finished their theses. Our time limit of six years from first registration to granting of the degree has not had the effect of speeding up completion of programs as had been hoped. This may be partly due to extensions of time given to students who were registered in the School prior to 1953 when the regulation was first brought into effect.

Scholarships and Fellowships

These were awarded in fields which included Mining and Metallurgy, Geology, Plant Science, Psychology, Political Science, Chemical Engineering, Physics, and Chemistry.

Report of Mr. B. B. Peel, University Librarian

Use of the Library

The three libraries which compose the University Library—the Rutherford Library, the Education Library, and the Library of the Calgary Branch—show an increase in use over last year. This year the attendance in the three libraries was 494,051, an increase of 7%, while the circulation of books and journals was 218,297, an increase of 11%. Since in most reading rooms the books are on open shelves accessible to readers, the circulation figure by no means represents the total use made of library materials. It is instructive to compare these gross totals with those of 1951-52, the first year the Rutherford Library was in service: attendance, 181,417; circulation, 148,602. With the anticipated steady increase in student enrolment, the library statistics can be expected to continue to rise for many years to come.

The students attending the Summer Session of 1956 made heavy use of the library; statistics were the second highest on record.

The Library again provided collections of books for students enrolled in Evening Division classes offered in centres other than Edmonton and Calgary. These collections were supervised and circulated by public libraries in Medicine Hat, Lethbridge, Red Deer, Camrose, and Vegreville.

Staff

This has been a year of many changes particularly among the non-professional staff. Between April and December there were a dozen changes in personnel.

Early in the year Mr. Mills Shipley resigned as Law Librarian to accept a position in the Supreme Court Library in Ottawa. The position of Law Librarian was filled by Mr. Denys Noden, M.A. (Cantab.), B.L.S. (McGill), formerly in the Cataloguing Department. In May Miss Leona Thompson also resigned from the professional staff.

In September Miss Joan Henshaw, B.A. (Queen's), B.L.S. (Tor.), was appointed Circulation Assistant.

During much of the year the Library was short two professional librarians, one to fill the position of assistant in the Applied Science and Medical Reading Rooms, the other to fill the position of reclassification cataloguer.

Library Sub-Committee and Library Committee

The Library Sub-Committee with twelve meetings had the busiest year since its organization.

The Library Committee at its meeting of October 24 requested the Library Sub-Committee "augmented by Dean Hardy, to survey the overall space needs of the Library." The Sub-Committee at seven special sessions studied the book stack and reading room space needs of the Rutherford Library over the next ten years. A general principle adopted by the Sub-Committee in its deliberations was that "the Library is so important, indeed essential, to the functioning of the University that the building should be extended as required." With the book stock increasing by an anticipated minimum of 100,000 volumes in the decade, and student enrolment on this campus expected to rise to 6,500 by the end of the period, provision must be made for Library alterations and additions. Their report will be invaluable in the planning of the decade ahead.

The Librarian wishes to express appreciation to this Committee, and in particular to the chairman, Dr. Thornton, for the time and thought devoted to library problems. The Committee loses a valuable member with the retirement of Dr. O. J. Walker at the end of the university term.

The Library Committee held one meeting during the year.

Order Department

The number of book orders placed showed a slight increase over last year. Special out-of-season requests, the administration of special book funds such as the Kellogg grant, locating back issues of periodicals, circulating exchange lists and the sale of our duplicates have all contributed to make the year a busy one for the Order Department.

A total of 7,864 volumes was ordered. In addition, the department processed another 553 volumes received as gifts or taken out of storage. Search was continued for missing issues of periodicals to complete files for binding, and 370 missing issues of 120 titles were located. Approximately \$1,100 was spent from the Col. J. H. Woods Trust Fund for the purchase of books on American-Canadian relations.

The Order Department continued its program of sorting out duplicate material in storage closets and of disposing of these volumes through exchange lists circulated to other libraries and by sale to second-hand-book dealers.

Cataloguing Department

The Cataloguing Department maintained a high level of performance during the year though hampered by staff shortages and changes.

Statistically the work of the department consisted of 9,248 books accessioned, 9,147 new volumes catalogued, 12,283 volumes reclassified, 20,760 books lettered, 202 books withdrawn, and 69,249 cards typed. While the total number of volumes catalogued and reclassified was 1,761 volumes less than the previous year, more serious was the necessity of discontinuing work on the catalogue subject headings during the staff shortage.

The reclassification of the main book collection of the Rutherford Library, originally envisaged as a four-year project, had been extended last spring for another year. The loss of one classifier with no replacement for a five month period, plus changes of clerical staff, has caused further delay. That any reclassification was done at all during this latter period speaks well for the organizational ability of the chief cataloguer, Miss Hicks, and the industry of her staff. Present expectation is that this project will be completed by July, 1957.

Reference Department, Periodicals and Binding

The function of this department is to guide the reader to information in books, documents, periodicals, maps and pamphlets, particularly through the use of indexes, bibliographies, and catalogues. In addition to reference service the department has supervision of the Periodical Room, Rare Book Room, Microfilm Reading Room, and the care of the map and document collections. The department has charge of the preparation of books and journals for binding.

The statistics show a sharp increase in the use of the Reference Reading Room. Attendance was 145,272 as compared with 123,734 last year, an increase of 17%. The circulation was 10,804, representing a 41% increase, while the number of reference questions answered was 5,213 as compared with 3,351 last year. The circulation of unbound journals from the Periodical Reading Room showed a 6% decrease.

The Interlibrary Loan Service handled 458 requests and loans, almost double the number of the previous year.

During the year 8,122 documents were acquired from government sources, and 428 brochures were added to the pamphlet file. A total of 1,876 maps, mostly of the United States and Canadian topographical series, was processed for the map collection. A new venture begun in the summer of 1956 was the organizing of a picture file; it contains approximately 2,100 pictures. Fifty-six graduate theses were deposited with the Reference Department.

Work in the bindery preparation division continued at a steady pace throughout the year, with a total of 2,208 books and periodicals bound, rebound, or repaired. Of these volumes, 301 were repaired in the department.

General Circulation Department

This department is in charge of the Reserve Reading Room, Main Delivery Desk and stacks, and the Browsing Area. The staff consists of two professional librarians, three non-professional graduates, one full-time and one half-time clerical. In addition the department employs a large number of student assistants during the term for part-time work.

The circulation figure for stack books was 36,284 volumes, about the same as last year. The circulation from the Reserve Reading Room was 43,765 volumes, representing an increase of 14%. This year 600 more titles were on reserve than during the previous year.

The circulation of books during the Summer Session of 1956 was the second highest on record.

At the end of March, 1957, the reclassification of books in the main stacks was nearing completion. This coming summer the Circulation Department plans to reshelve the books in proper order. Library staff and stack users will welcome the termination of the years of disarrangement.

Reports of the Branch Libraries

Applied Science Reading Room

In the Applied Science Reading Room the attendance has continued to grow, reflecting the rise in enrolment in Engineering. Attendance during the year was 51,511, an increase of 2,467.

More spectacular has been the increase in circulation from 9,792 (in 1955-56) to 15,143, or an increase of 54%. This figure is for overnight loans, and gives no indication of the use made of the books in the reading room. The staff answered 557 more reference questions than during the previous year.

Instruction in bibliographical tools was given by the Reading Room Librarian to all third and fourth year civil engineering students. This was in addition to instructional periods held, as in previous years, for first year agriculture students, and fourth year students in mining and in chemical and petroleum engineering. The value of these library instruction periods is recognized both by students and faculty.

This reading room is the first area in the Library to outgrow its book stacks.

Law Reading Room

In September Mr. D. Noden was appointed Law Librarian to replace Mr. Shipley who resigned in May.

Books in the reading room and adjoining stacks are accessible to the law students, so that no statistics are kept of the books and journals used in the reading room. Books and journals borrowed for overnight use, which form but a comparatively small part of the students' reading, totalled 4,892. The attendance in the reading room was 32,038, a decrease from the previous year.

Medical Reading Room

The total attendance in this reading room, which serves the Faculties of Medicine, Dentistry, and Pharmacy, and the Schools of Nursing and Physiotherapy, was 43,782. This compares with 30,594 the previous year, or an increase of 43%. Most of the increased attendance is during the day rather than in the evening. This greater daytime attendance is reflected in the greater use made of reserve books in the reading room.

The total circulation figure, 19,573, is much the same as that for the previous year.

Medical practitioners, most of them living in Edmonton, borrowed 4,628 volumes.

During the year the staff disposed of our accumulation of duplicate journals through circulation of exchange lists to other medical libraries.

As in other years the Medical Librarian conducted library instruction periods for first year students in faculties served.

Education Library

The Education Library occupies three rooms on three floors of the Education building. The new lighting fixtures installed in Room 218 last autumn improved the appearance of this room and removed eye strain. This library is served by a staff of four. During the session the library was open four evenings a week—two more than in 1955-56—for the use of Evening Division students.

The attendance for the year was 40,827, while the total circulation was 40,509 volumes.

In May the Canadian Education Association - Kellogg Foundation workshop was again held, and a collection of books made available for the use of superintendents enrolled. When the Division of Supervision and Administration was established in the Faculty of Education, the grant from the Kellogg Foundation workshop was again held, and a collection of books made available for the use of superintendents enrolled. When the Division of Supervision and Administration was established in the Faculty of Education, the grant from the Kellogg Foundation included \$1500 for library purposes. Much of this has been expended on back files of journals and microfilm copies of educational theses.

Calgary Branch

This branch serves the faculty and students in Education and in Arts and Science.

The staff has consisted of two full-time persons with help from student assistants, but last September in recognition of the increased use being made of the Library an additional half-time staff member was added. However, owing to the illness of the Branch Librarian, the Library operated under difficulty for some weeks during the term. Acknowledgement must be made to the fine spirit shown by the other staff members during the emergency.

The attendance figure was up again this year to 55,362, an increase of 10%. The circulation was 22,945 for books, recordings, and pictures. This represents an increase of 14%, but the greatest increase was in reading room reserves which were up 41%. This latter suggests that students are making use of the additional reading room space now available to them.

Miscellaneous Services and Activities

The Photostatting Service processed nearly seventy orders representing 1,419 pages of photostats. The operation of this service is carried on by a student assistant under the supervision of a staff member.

As in previous years the noon hour music programs in the Music Listening Room continue to give pleasure to students. A more limited number of evening programs was offered during the winter session because of the stiff competition from other campus activities. However, during Summer School several evening concerts were given to audiences who were both numerous and appreciative.

A number of displays, both decorative and informative, were placed on exhibition in the cases in the rotunda during the year. One of these was a travelling collection of rare books on loan from a Montreal dealer.

Professional Activities

Members of the staff actively participated in the provincial and national library associations. The librarian served as a judge in the humour section of the Governor-General's Awards in literature for 1956.

Report of Professor A. A. Ryan, Provost

General

Under the stimulating leadership of Mr. John Chappel, President of the Students Union, extra curricular life on the campus has been exceptionally lively during the past year. Mr. Chappel was himself awarded the *Mothersill Memorial Scholarship* on the basis of a popular vote for his contributions to the Student Community.

Student Government

Thanks to the sound foundations laid by recent Students' Councils, this year's Council was able to concentrate on providing active leadership for the student body. In this they were aided by such well-organized and maturely led clubs as the Engineering Students Society and the Agriculture Club.

Continuing efforts to improve the scheduling of social events were climaxed this year by the creation of the office of Coordinator of Student Activities. During the summer, office facilities are to be set up for this new official in the main lobby of the Students Union Building. Work is also advanced on a handbook devoted to extra curricular life on the campus, which will serve as a guide to students in general and to club officials in particular. It is hoped by these means to maintain systematic control of the multifarious activities sponsored not only by the Students' Union but by the numerous faculty, school, religious and other clubs.

A revised edition of the By-Laws of the Students' Union is to be ready for next fall.

Student Activities

Among the highlights of the year should be included:

- (1) the winning of the Southam Trophy by the Gateway as the best University newspaper in Canada;
- (2) the winning of the McGoun Debates by Alberta debaters for the first time in several years;
- (3) the operation of a successful "Model Parliament" with a student speaker;
- (4) the resurgence of the Golden Bears hockey team which enjoyed an undefeated season, and of the wrestling club, one of whose members was chosen the outstanding athlete on the campus; and the continued success of the Ski team in the face of serious handicaps;
- (5) increasing interest in the Music and Ballet Clubs, rounding out the opportunities already presented by the Mixed Chorus and the Radio and Drama Societies.

Public Relations

The importance of the efforts of the Students' Union in the University's public relations was again underscored by several successful events. Among these were the eighth Annual Civic Banquet, the ninth Annual Parliamentary Dinner, and the best attended Varsity Guest Week-End in the six years during which this event has been sponsored.

Students' Union Building Program

The coordinated efforts of the Students' Union, the Alumni, and the Administration have hastened plans for the construction of the next stage of the Students' Union Building — to include a gymnasium and a swimming pool. It is hoped that these new facilities will help switch some of the emphasis of student social life from dances to sports. In this connection it is worth noting that the Curling Club has several hundred active members, even though the individual cost was high and the only facilities available were two over-town rinks between 4:30 and 6:00 p.m.

During the summer the Union Cafeteria is to be completely redecorated and provided with booths, and a row of new offices is to be partitioned off in the main lobby.

Men's Residences

At the beginning of the Session there were several changes in the staff of the Residences. Mr. A. A. Ryan, Warden of Assiniboia Hall since 1946, relinquished his duties to Dr. M. H. Scargill; and Mr. J. Bilsland was appointed Warden of Athabasca Hall in Dr. Scargill's place. The Residences also lost the services of Miss B. Young, who was replaced as dietitian by Miss Joyce Lister.

There continues to be a steady and substantial increase in the number of overseas students, notably from India and Pakistan, who are admitted into the Residences.

Although 95 per cent of the men now in Residence have applied for re-admission, less than 20 per cent will be allowed to return because of the large numbers of freshmen who must be accommodated first.

Fraternities

The number of social fraternities permitted on the campus has remained at twelve, four women's and eight men's, although there continue to be applications from other groups who are interested in forming chapters here. The Men's Interfraternity Council and the Women's Pan-Hellenic Association have cooperated well in supervising fraternity life. As in the past, the fraternities have been active in intra-mural sports and other student activities. For example, the inter-fraternity "Song Fest", the proceeds of which are donated to charity, was of an even higher standard than in the past, and was enthusiastically supported.

Discipline

It is a pleasure to be able to report that in spite of spirited competition between student groups there were no serious disciplinary problems during the year. Once again it was unnecessary to call upon the Students' Disciplinary Committee to handle a single case.

Report of Professor Maimie S. Simpson, Dean of Women

Interviews

Students frequently requested opportunities to discuss their courses, their work, and their problems. High school students, now and then, requested appointments when they were planning to enter university; making a choice of faculty is often difficult for them.

Again this year there were several emotional cases in which, at the request of the doctor and of Student Advisory Services, cooperation was given.

Financial Assistance

Babysitting, student assistantship in the Library, and work in private homes in exchange for room and board, gave a number of students the extra financial assistance they required.

Extracurricular Activities

These activities are increasing in numbers with the growth in student enrollment, especially the number of informal dances. Upon invitation from the students a considerable number of these dances were attended including all but one of the residence dances.

Also, all but one of the Sunday Musical Concerts was attended; all meetings of the Wauneita Society, and several gatherings of the Mixed Chorus.

Because of increased enrollment it was necessary to increase the number of

"Freshette Coffee Hours". This term the women students who had attended the University in Calgary for their first year were invited with the first-year women.

There were more meetings with executives than in former years, especially when social functions were being planned, and meetings with individual students seeking direction on executive or club matters.

Women graduands in Honours B.A. and B.Sc., in Medicine, Pharmacy, Agriculture, Law, and Commerce were entertained at tea.

As in the past, much time was given to the Wauneita Society whose executive and council are campus hostesses on numerous occasions. To Miss Shirley Tanner, the president; to her very capable secretary, Miss Ruth Buchanan and to the other members of the executive we are sincerely grateful for a most successful year.

Six of the seven monthly meetings of the Panhellenic Society were attended in an advisory capacity upon request of the fraternity women.

The University Mixed Chorus was accompanied on its out-of-town three-concert series to Sangudo, Westlock and Athabasca. Mrs. Eaton accompanied them on their extra trip to Thorhild, and Mrs. Harry Scargill will, once again, be with the Chorus during "Springtime in Alberta," April 29th to May 10th.

The Infirmary

Women students confined to the infirmary or the University of Alberta Hospital were visited.

Dr. Vant's Lectures

Dr. Ross Vant's three-lecture series to the First-Year Women, given this year on three consecutive days, was more appreciated than ever. These lectures are invaluable.

Recommendations

The number of recommendations required by students applying for scholarships, seeking summer employment, or permanent positions upon graduation, is becoming almost a problem in the months of March and April because of their time-consuming nature.

Public Relations

One broadcast over CKUA, one address in Lethbridge, one address at West Salisbury and twenty-two to overtown organizations including the South Side Masons, the Handicraft Guild, a branch of the Canadian Legion, several church groups and women's clubs, were given during 1956-57.

Report of Dr. A. J. Cook, Director of Student Advisory Services

This has been a busy year, with the counselling load increasing; yet it has been an interesting year also, with some perplexities.

Counselling Services

Basically, this is the whole purpose of Advisory Services. We all have 'problems', meaning that we constantly face situations in which we need information, consultation and support, all as a basis for making a sound decision. The ideal climate for counselling is one of objectivity, where the client feels free from pressure — free to think intelligently.

Advisory Services is not a pathological service! Its clients are intelligent and for the most part, mentally healthy young men and women. Most of the

'problems' we deal with are those 'normal' to students making their way to leadership responsibility. Stepping out of the security of home and school, out of youth into manhood and womanhood, means stress and perplexity. Encouragement and assurance are often needed, as well as educational guidance. It is equally true that the Services have to be prepared to deal with the gradations of adjustment to adult life in an environment of learning to take high responsibility (which is what professional life means). It is inevitable that instances of severe mal-adjustment occur. We have to be prepared for them. It is here that liaison with Student Medical Services is indispensable. The services of the psychiatrist (and although this has not been possible as yet, the social worker) are an essential part of a mature counselling service.

Special Problems

During the present session, the Faculty of Engineering and the Department of Geology requested some analysis in regard to the background and ability of students in first year. Individual predictions have been made for all these students, in terms of data available at the beginning of the session. These will be compared with actual performance.

Another problem concerns admissions to the Faculty of Dentistry. Many professional schools in United States in Medicine, Dentistry, and Law use a battery of psychological tests to assist in admission. For some years candidates for admission to Dentistry have on a voluntary basis, come in for interview based on a check of vocational interests. This year, all the candidates were asked to take certain other tests, to provide data which could form the basis of follow through in studies. The study is being conducted by Mr. Arthur Hough in cooperation with the Faculty Admissions Committee.

Staff

Miss Lolita Wilson returned to the department on September 1 after a year of advanced study at the University of Minnesota, where she completed her course work and language requirements for the doctorate.

Mrs. Rita Aldridge substituted for Miss Wilson during her absence, and continued with us until September 30th.

Mr. Hough represented the University at the Western Personnel Institute Conference in Pasadena last November and gave an interesting resume of the discussions to the Committee on Student Advisory Services. He is chairman of the session on University Counselling at the U.C.P.A. meeting at the University of Ottawa to be held in June. He is also on the executive of the provincial School Counsellors Association.

Dr. J. G. Woodsworth continues to act as Counsellor at the University in Calgary. For the first time, the office in Calgary will be open to students during the summer, beginning August 1. The service will be for students wishing to attend the University in Calgary or Edmonton, as well as for undergraduate referrals.

In addition to their teaching in the Department of Psychology, Mr. Hough and Miss Wilson have given 20 lectures to each of the two classes in the Diploma Course in Nursing, this arrangement having been made three years ago. These lectures have to do with the principles of learning, and serve as a basis for counselling liaison with the School of Nursing.

Miss Wilson was invited to conduct counselling group sessions with the L.D.S. group and with two of the women's fraternities. She also gave service lectures to students in Household Economics (2) and in the fifth year of

Nursing (Advanced Obstetrics group (2) and Public Health group (4)). Special tutorials were requested by Household Economics and Physiotherapy.

The staff has again participated in the Career Day program, which is under the direction of the Guidance Branch of the Department of Education. This lasts from mid-March through into May. There were 55 career days in which 150 high schools took part with a total of 12,500 pupils and parents in attendance. In addition, Dr. Woodsworth and Miss Wilson spent a week in the Calgary High Schools, with opportunity for meeting with students in small groups.

Four broadcasts were arranged during March on Station CKUA giving information for prospective students.

The Director was asked to continue as chairman of the University Committee administering the Student Assistance Act. The report of the Senate Special Committee on Financial Aid was approved by General Faculty Council and the principle of centralized administration was also approved. This action constitutes a forward step in the development of this important area of student services.

For some years Advisory Services has been seeking to foster the development of sensible means of information for use in High Schools. It is gratifying to report that this principle has been approved by Deans' Council and that printed information, supplementary to the calendar, will be prepared by all Schools and Faculties.

One outstanding perplexity is the problem of the transition period (particularly the first term) which faces every new student entering the University. The Freshman Introduction Week Committee is convinced that its program is not the place for the orientation of the new student to his studies. This is experience across the continent. The problem has been raised for faculty discussion. It is an important one, and has many facets. Not the least is the attitudes with which the problem is approached.

It may be noted that we have had enquiries this year from three separate institutions in Canada asking for detailed information about Advisory Services.

It is a pleasure to record the sense of helpful association with staff and administration in the Faculties, Schools and various student services.

Report of Dr. J. F. Elliott, Director of Student Medical Services

The Student Medical Services have had an active year. As in former years, members of the freshman class had complete physical examinations, urinalysis and tuberculin tests, and positive reactors were referred to the Aberhart Hospital for chest x-rays.

The Infirmary has provided out-patient service and in-patient care for sick students not requiring hospitalization.

Dr. A. Little and Dr. M. M. Cantor have conducted sick parades and have been assisted by senior internes from the University Hospital.

Miss Revell and the members of her staff have given their services in their usual efficient manner.

Dr. S. Smith, who has been appointed professor of Psychiatry has taken an active interest in the student group, and lightened the load of Dr. Spaner and Dr. Carson.

Dr. M. Hutton has continued to act as consultant in gynecology.

The B.C.G. program for students in Medicine and Physiotherapy has been continued with the cooperation of the staff of the Aberhart Hospital.

Poliomyelitis vaccine was offered to the University students at cost, when it became available last fall and about 500 students have received one or more injections.

The inadequacies of the present Infirmary building become more apparent as time goes on and student population increases.

Report of Miss Margery W. MacKenzie, Radio Director

As an experiment for the 1956-57 season the University reduced by two-thirds its amount of broadcast time exclusive of the Music Hour and Saturday Concert. Programs were developed on a more flexible basis, and the Monday to Friday schedule consisted of a Music Hour commencing at 6:45 p.m. and followed at 7:45, or shortly before, by one additional program each evening which ran until 8:00 o'clock. Broadcast of Saturday Evening Concert, from 8 to 9 p.m. Saturdays, was continued. This schedule of broadcasting was in effect for the six-month period from October 1st to March 31st. Programs for the other six months consisted entirely of the six hours a week of recorded music.

A dozen programs, recorded by the Program Producer, Alan Hood, at the 1956 session of the Banff School of Fine Arts, were included among the fall and early winter broadcasts. As well as discussions on ballet and crafts, the reading of prize-winning short stories and excerpts from dramatic and musical presentations, they included complete recordings of the performances at Banff of Mozart's *Requiem Mass* and of the Mozart opera, *The Abduction from the Seraglio*.

Only three or four series were carried throughout the winter season, most programs being independently developed. *Men and Letters*, a full-term series, was broadcast once a week and comprised talks on men and letters, book reviews and readings from literature. *The Western Board of Music* presented Edmonton musicians in a bi-monthly series of concerts. Organ recitals, recorded in Convocation Hall, comprised a similar series. One short series of six programs dealing with the question "*What is the Mind?*" from the point of view successively of the anatomist, the physiologist, the psychologist, the theologian and the philosopher, was rebroadcast later by the CBC. There were series of four programs on *Great Painters*, *Drama and Theatre in Alberta* and *The University of Alberta — Your University*, the last-mentioned series being designed specifically for prospective University students.

The several actuality broadcasts included two recorded with the Department of Geology, (one in the Badlands area,) one with the Department of Engineering, one with the Department of Plant Science, one with the Departments of Horticulture and Botany and one with the Department of Bacteriology.

Other programs consisted mainly of talks and discussions on current affairs, education, Studio Theatre and Extension activities, and of interviews with visitors to the campus.

The student Radio Society, under the presidency of James Edwards who served also as one of the three announcer-operators for programs released from the Radio Service studios, had an active membership of about thirty students. Broadcasting from the studios in the Students' Union Building, it presented programs from 5:30 to 6:30 p.m. Fridays over CKUA. It also initiated a 'network' arrangement whereby one fifteen-minute taped program was sent for rebroadcast each week to four other Alberta stations. Besides campus news and interviews, popular programs included *Campus Concert*, *Jazz-Time U. of A.*

and *The Alberta Calypso Singers*, — a sextet of Trinidad students presently attending this University.

Report of Professor R. S. Eaton of the Western Board of Music in Alberta

1. Statistics (Candidates and Fees):

Candidates	February	May	June	Total	Fees	
Practical	182		1078	1260	\$1444.00	(February)
Theoretical	364	452		816	5535.00	(May, June)
				<u>2076</u>	<u>6979.00</u>	

This shows an increase of 46 candidates and an increase in fees of \$292.85.

2. *Revenue* from the sale of theory papers (December 1, 1955, to November 30, 1956) — \$70.52. This shows an increase of \$7.89.

3. Centres

(a) *Practical:*

February, 1956: Edmonton, Calgary, Lethbridge, Red Deer.

June, 1956: Banff, Blairmore, Bonnyville, Bowden, Calgary, Castor, Chauvin, Dawson Creek, Donnelly, *Drumheller*, Edmonton, Falher, Forestburg, Fort Kent, Glendon, Grande Prairie, Hythe, Lethbridge, McLennan, Medicine Hat, Peace River, Pincher Creek, Ponoka, Red Deer, Rycroft, St. Paul, Spirit River, Sundre, Wetaskiwin. (*Italicized* centre was revised in 1956)

(b) *Theoretical:*

February, 1956: 41 centres

May, 1956 : 42 centres

4. Examiners for Practical Examinations

February: Mr. Lloyd Powell, Vancouver; Mrs. Gladys Whitehead, Kenora; Mr. Edgar Williams, Edmonton; Mr. Robert Pounder, Edmonton.

June: Mr. Leonard Heaton, Winnipeg; Mrs. Edna Marie Hawkin, Montreal; Mrs. Helen Davies Sherry, Saskatoon; Mr. John Waterhouse, Winnipeg; Mr. Leonard Leacock, Calgary; Mrs. Dorothie Langmo, Mr. Douglas Millson, Mr. Robert Pounder, Mrs. Lillian Upright, Mr. G. K. Greene and Mr. Arthur Crighton of Edmonton.

5. Diplomas Granted

Spring Convocation: A.Mus.: Constance Channon, Marilyn Neubauer, Eta Pearlman.

Fall Convocation: A.Mus.: June Daley, Arnold Waack, Peter Walker.

6. Broadcasting (from November 1955 to March 1956)

Throughout the season 1955-56, a series of twice-monthly broadcasts was given by the following well-known Edmonton teachers and musicians: Dorothie Langmo, violinist; Edgar Williams, violinist; Marguerite Marzantowicz, who plays both violin and piano gave a piano recital; Catherine Wendol, soprano; Marilyn Smith, pianist; Lillian Upright, pianist; Eleanor Kerr, pianist; and Arthur Crighton, organist.

7. Recitals

Commencing on November 14th, five regional recitals were held in Hythe, Red Deer, Lethbridge, Calgary and Edmonton. Presentations of scholarships, bursaries, prizes and medals took place following an evening of music provided by the young award winners in piano, 'cello, flute and singing. Helen Guerin

and Marilyn Neubauer of Calgary were visiting artists in Edmonton and Lethbridge while from Edmonton Priscilla McLean, Aina Sauja and Mark Jablonski went to Calgary, Hythe and Red Deer as guest artists.

8. *Scholarships, Bursaries, Prizes and Medals*

In 1956, awards totalling about \$5,000.00 were again offered by the Western Board of Music and many donors throughout Alberta as well as one in the United States. A few awards were withheld for lack of a suitable candidate, notably the tuition scholarship of the Banff School of Fine Arts and the scholarship for strings given by the Peabody Conservatory of Music in Baltimore, Maryland.

Some donors gave their money elsewhere in 1956. In Edmonton, the Provincial Chapter of the I.O.D.E. did not offer their usual \$300.00 bursary and in Lacombe the \$20.00 bursary of the I.O.D.E. was also discontinued. The Roxane Choir of St. Paul because of financial difficulties did not give their usual \$25.00 award this year.

NEW AWARDS

The most valuable addition to our prizes was made by the Oxford University Press who gave six copies of the very fine book for young music students — *The Oxford Junior Companion to Music* by Scholes.

The McLennan district, the Elks, the Ladies of St. Ann and the Catholic Women's League gave prizes totalling \$35.00.

Mr. J. Lawrence of Red Deer, whose bursary was discontinued for two years, again offered \$25.00 for 1956 and has renewed his award for 1957.

9. *Pedagogy Course (Piano)*

Once again a course in the principles of piano teaching was given by Mr. Lloyd Powell of Vancouver and was greatly appreciated by the fifteen teachers in attendance. This was arranged by Mr. G. K. Greene, Lecturer in Extension Music of the University of Alberta, and was held in the High School in Grande Prairie from August 30th to September 1st inclusive.

Report of Lt. Col. D. E. Smith, Officer Commanding, University of Alberta Contingent, Canadian Officers Training Corps

During this academic year 1956-57 the officers of the Contingent were Lt. Col. D. E. Smith, Major J. H. Whyte, Major W. C. Wonders, 2/Lt. H. R. Hawes and the Resident Staff Officer, Major R. C. W. Hooper, CD. The Honorary Colonel is Col. H. A. Dyde, O.B.E., M.C., Q.C. Capt. W. A. D. Burns was attached from the Loyal Edmonton Regiment to assist with the training.

During the summer of 1956, 59 Second Lieutenants and Officers Cadets took their practical training courses. Four members of the Contingent trained in Germany with the Second Canadian Infantry Brigade (six members of the Contingent have been selected to train in Germany in 1957.) Officer Cadet H. J. Sandham was awarded the "Best Cadet Shield" at the Royal Canadian Dental Corps School.

Enrolment during the 1956-57 season was almost equal to the previous year. Twenty first year cadets were enrolled during this period; in addition, 10 Officer Cadets were enrolled under the Regular Officers Training Plan and took their training with this Contingent. Two third year dental students were commissioned and will be subsidized through their third and fourth years of dentistry.

The first year cadets received a course of lectures in the subjects "Introduction to the Army" and "Current Affairs". The second year cadets were given courses in "Organization and Administration" and "Tactics". The Tactics course was conducted by means of practical problems on a landscape model and was well received by the cadets. Subjects taken by the third year cadets included "Military History" and "Military Geography". A short course in "Leadership and Man Management" was also conducted to introduce these Officers to some of the problems with which they will be confronted during their practical training this summer. A "Current Affairs" discussion period for all cadets was carried out each month.

The Contingent participated in a number of University activities such as the Remembrance Day Service, the opening of the model parliament and Varsity Guest Weekend. Social Events held were the Tri-Service Ball and the Contingent Mess Dinner.

This unit has made considerable progress in establishing and maintaining liaison with local Militia units. Royal Canadian Engineers Cadets took part in a three day exercise held at Lethbridge 6-9 Oct. '56. Valuable practice and experience was gained in Bridging and Water Supply. Cadets were guests of the 19th Alberta Dragoons at an "Armoured Corps Night" on 14 Jan. '57 when the work of that unit was demonstrated. Similar nights with other units are planned for next year.

Report of W/C B. E. Riedel, Commanding Officer, Reserve University Squadron, RCAF

During the summer of 1956 approximately 60 Flight Cadets were given training in aircrew, technical, and non-technical branches of the RCAF. Two cadets were posted overseas for summer employment.

W/C L. E. Gads retired from his position as Commanding Officer of the squadron on October 31, 1956. He was awarded the Canadian Forces Decoration at the Reserve Officers School, St. Jean, P.Q. in June, 1956. W/C B. E. Riedel succeeded W/C Gads as Commanding Officer. F/L A. B. Crighton served as Chief Training Officer, F/L Anton was taken on strength as Administrative Officer, and F/O Blackley was enrolled as Assistant Administrative Officer. F/L R. J. Curry of the Regular Force continued as Resident Staff Officer.

Recruiting for the Air Force was particularly good this year, the number enrolled being greater than the original quota allotted to this University. Twelve cadets who were preselected under the Regular Officer Training Plan entered University in September, 1956. In addition 4 cadets were enrolled under this plan during the year. Four serving airmen and 2 Regular Officers were also accepted into the University Faculty of Engineering. Twenty-eight cadets were enrolled during the year into the University Reserve Training Plan. This makes a total squadron strength of 84 Flight Cadets.

A total of 8 cadets have completed their training and were promoted to the rank of Pilot Officer.

Three URTP (1 male and 2 female) cadets were accepted into the Regular Force and 2 additional females were direct entrants into the Regular Force.

The winter program consisted of lectures, films and visits. The principal lecture topics were World Affairs, Military Geography and Military History. Lectures of indoctrination and orientation were given first year cadets. An extensive program of rifle shooting was carried out, and the Alberta squadron was the winner in a competition carried out by mail with the Universities of

Toronto and Ottawa. A program of drill and mutual instruction was given the first year cadets. The instruction time for the cadets was 64 hours and was carried out in a once weekly evening meeting.

The Tri-Service Lounge was used considerably by our cadets during the year as a study room, games room and TV viewing room. The highlights of the social activities of the squadron were the Tri-Service Ball held at HMCS Nonsuch and a Mess Dinner held at the Joint Services Officers Mess at Tactical Air Command. The Air Force participated in the annual Remembrance Day Service and organized a Band Concert by the Tactical Air Command Band.

A special tour to RCAF Station Cold Lake for University staff members was organized by the squadron. Eighteen members from the Science departments of the University attended.

A similar tour to Cold Lake was conducted for 4 prospective applicants for a sponsored internship dietitian plan. These four girls have now been enrolled in the regular force.

Fifteen members of the Squadron will be graduating from the University this year. Three of these are ROTP, 1 serving airman and 2 regular officers attending University, who will continue serving with the Air Force. The remainder will be transferred to 418 Squadron (Aux) or the Supplementary Reserve.

The Reserve Officers School for indoctrination of first year male cadets will be held at College Militaire Royale, St. Jean, P.Q. again this year. Female cadets will attend a similar School at London, Ontario.

After this indoctrination course cadets will be proceeding to various RCAF stations across Canada to continue training for the balance of the summer.

More senior cadets will be sent directly to the various stations where they will continue their training. Three cadets were chosen for overseas postings this summer.

F/L Crichton, F/L Anton, F/O Blackley and the RSO will be on staff at St. Jean.

Report of Lt. Cdr. R. S. Van Alstine, R.C.N.(R.), Commanding Officer, University Naval Training Division

Twenty cadets completed Summer Training at Ottawa, Esquimalt, Halifax and Montreal in September, 1956.

Instructor Lieutenant L. Cottrell, RCN, replaced Lieut. T. S. Millman, RCN(R), as Resident Staff Officer. Training Officers were Lieut. T. S. Millman, Lieut. E. Schwarz, Sub. Lt. J. C. Butt, Sub. Lt. J. R. Harle, Sub. Lt. L. Hyndman and Sub. Lt. (P) C. Strong. Six of these officers were University students. In addition Surgeon LCDR M. Williamson and Chaplain II J. McGrane were seconded for duties with the UNTD. The Commanding Officer was Lt. Cdr. R. S. Van Alstine.

Seven students were recruited as Probationary Cadets in the fall of 1956 and six of these were successful in passing the Selection Boards in January and March of 1957. One R.O.T.P. cadet was in attendance for his third year at the University.

In addition to regular weekly parades the following special events were held: Remembrance Day Parade and Service, Trafalgar Day Parade, Lt. Governor's Levee, Tri-Service Ball, Mess Dinner, Band Concert at University and the Annual Inspection by Flag Officer Naval Divisions.

Two delegates from the U.N.T.D. sat on the Tri-Service Mess Committee, one of them as Treasurer of that organization.

Tentative plans for the institution of a Tri-Service-Week to assist in recruiting on the campus in the fall were made.

The present strength of the Division is as follows: First year, 6 cadets; Second year, 8 cadets; Third year, 8 cadets.

**Report of Mr. D. D. Campbell, Director of the Department of Extension;
with the Report of Senator Donald Cameron, Director of the Banff School of
Fine Arts**

(Extracts: the Reports are published in full elsewhere)

I have the honor to submit the forty-fourth annual report on the extension activities of the University for the year ending March 31, 1957.

The quality and the breadth of any university extension program depends in large degree on the interest and enthusiasm of all the members of the university staff. The pages following indicate the generous support which has been given the extension service by all departments, schools and faculties. Some 1,700 talks were given to audiences totalling 100,000. One hundred and ninety radio and television talks were broadcast this year.

As in past years, a considerable amount of time was spent in the preparation of bulletins, in interviews, in the arrangement of field days, the preparation of exhibitions, the organization of Varsity Guest Weekend and other such annual functions. During the term, the University was host to a number of distinguished artists and others eminent in their fields including Kendall Taylor, the British pianist, J.B. Priestley, author and playwright, John Grierson of documentary fame and L. W. Douglas, former ambassador to the Court of St. James.

A necessary reorganization of the University's Department took place this year and was marked by the appointment of Duncan Campbell as Director of the Department. Senator Donald Cameron remains the Director of the Banff School of Fine Arts. A newly appointed Extension Council representing all Departments, Schools and Faculties will serve to coordinate and advise both divisions.

Short Courses, Classes and Conferences

The late Dr. Henry Marshall Tory, in his inaugural address as first President of the University of Alberta, made the following significant observation—"A University should be the most practical of all institutions. It should strive to find the answers to the economic and social problems of common everyday people, and then share its knowledge with them." Extension objectives could hardly be enunciated more clearly. The chief medium of contact with these everyday people is through the ever increasing number of short courses, evening classes and other forms of group assembly and study.

Over the years, the Department of Extension has accepted the responsibility of initiating educational programs in a variety of fields. These programs or projects which have proved their worth tend in turn to reach the stage of independent existence. The nationally known and respected Banff School of Fine Arts now comes of age after a quarter of a century of steady and sometimes spectacular progress.

Other projects which have now achieved independent status are the Evening Credit Program and a program of training workshops formerly held under the sponsorship of the Farmer's Union of Alberta. The evening credit classes are

growing steadily and are gradually becoming available at other suitable centres apart from the campus at Edmonton and Calgary. The Farmer's Union of Alberta has this year appointed an Educational Director. Staff from the University's Extension Department continue to be called on for consultation and instructional assistance, a service gladly and freely given. It is a source of satisfaction to note the advances and progress made in other educational projects launched by the University's extension service.

Table II of this report sets out in detail, an ambitious and varied program of educational opportunities offered under the aegis of this Department of Extension. These classes and courses are shown in five divisions according to their various forms of administration and content. This year, several classes of a seminar type were introduced. Among them were Social Philosophy, Effective Reading and Courtship, Marriage and Family Life. These groups were restricted in size and intensive by nature. A good deal of responsibility for preparation and presentation was lodged with the students who responded very well to this new approach.

Some degree of the University's responsibility to the larger community is being met through a series of conferences and work shops held at different points throughout the province. The Rural Leadership Course at Banff, now seven years old, is, despite its title, effective in its task of preparing the young man and woman in rural community organizations to assume his community responsibilities. It is a particularly satisfying experience for staff members to meet and work with this group of young adults from rural Alberta, many of whom will undoubtedly play important leadership roles in the future.

The annual Farm Young People's Week, now very much the senior extension short course, saw a hundred lively youngsters attending its thirty-eighth annual session.

The Fine Arts Division has shown significant progress during the past year. Music and Choral Workshops, regular group instruction in drama and Community Art Classes have brought most satisfying results. During the winter months, Miss Bridget Headley did an expert and exciting teaching job in the Peace River country through choral workshops in eight centres. These culminated in a massed choir performance — the first of its kind in the area — and was a significant and thoroughly appreciated affair. Theatre groups and individuals across the province have made their mark in local, regional and provincial festivals, and perhaps gained a lasting personal asset in this creative use of leisure. Community Art Classes have increased in number and scope to tax the physical limitations of the available staff, buoyed up by the appreciation and support of the students. Pottery and Modelling Classes this year have rounded out a balanced offering combining manual dexterity and artistic taste.

Business in Alberta has come to look to the University to supply educational opportunities in a tremendous variety of fields. Some of these are technical and professional, such as the annual refresher courses in School Administration, Municipal Administration and Sanitary Inspection. Supervisory Training, Industrial Relations, Executive Development, Wage and Salary Study, and Personnel Management touch the area of applied psychology.

This year the ambitious would-be prospector, along with the professional, has gleaned valuable pointers from the rock samples and sets prepared for this course and from the businessmen, government officials and geologists who comprised the team of instructors. A practical approach to the social implications and treatment of alcoholism is found in the Medical and Industrial

Forum on Alcohol Studies, held in Edmonton. A seminar studying International Affairs in a troubled world finds a logical niche in this most comprehensive program.

The Petroleum Industry Training Service, now a lusty six-year-old, has been giving educational aid over an increased area. The accent this year has been on taking the school to the worker in the field rather than centralizing instruction in Edmonton or Calgary. The industry has shown an increased interest in the preparation of these courses. Active committees with representatives from the leading drilling and production companies are giving useful guidance in selecting course content and are assisting its application through provision of staff and facilities.

Agricultural Extension

The agricultural extension work of the Department of Extension has in large part been directed toward the study of problems relating to rural organization and rural communities. Short courses, the provision of special lectures and the distribution of bulletins have proved the most useful methods.

Bulletins, circulars and leaflets totalling 29,398 were distributed during the year through a mailing list and the district agriculturists. In spite of this coverage, 937 requests for agricultural publications were received and 437 inquiries for specific information were referred to other departments. Some 345 inquiries relating to individual, organizational and community problems were received and dealt with.

Citizens' Forum

A definite effort to increase interest in Citizens' Forum was made by sending out 2,425 copies of the study pamphlets. A mailing list of 148 was established, and numerous single copies were sent out to others interested in a single broadcast or in certain broadcast subjects.

The New Trail

This joint publication of the University and the Alumni Association records the important developments on the campus, summarizes research and reports on other activities of the staff and student body of interest to university people. During the year 10,270 copies of this publication were mailed to our widely dispersed graduates.

Extension Library (See Table III)

Over-all circulation has increased during the year from 99,482 to 114,136. The number of adult books sent by mail from the Open Shelf to families and individuals has increased by about twenty-one per cent, from 42,106 to 51,066; and the number of children's books by about twenty-six per cent, from 5,521 to 6,952. Six hundred and seventy-four Travelling Libraries—boxes of from thirty-five to forty books—were sent out for three-month periods to 288 small libraries, schools, home and school associations and other community groups throughout the province, and recorded circulation has increased by about ten per cent, from 46,280 to 50,895. Here it seems very likely that the books have been used more heavily than circulation would indicate, since some custodians of libraries have occasionally neglected to record full circulation figures.

Of the 674 Travelling Libraries sent out, 427 were made up of children's books. The increase of fifteen in the number of libraries over the previous year would undoubtedly have been larger if a larger supply of books had been

available. It was impossible to fill all requests promptly, and for a good part of the year there was a waiting list of thirty or more. A larger than usual proportion of the book budget this year has been spent on children's books, and next year it should be possible to deal with requests more adequately.

The Extension Library supplies books to the Banff School of Fine Arts, for courses offered by the Extension Department and for study groups throughout the province. The convener of one such group wrote: "How the women have enjoyed your books! It is the first time any of them have had the privilege of using books from any library."

Little personal contact between the staff and present and prospective readers has been possible. The Acting Librarian took book displays to the Community Life Conferences at Hanna and at Cardston, and during the University Guest Weekend and Farm Young People's Week visitors were shown through the Library. But it is evident that many Albertans do not know of the services offered by the Extension Library. As one reader said: "For years we begged, borrowed and bought books, little realizing that this great store of wealth was to be ours 'All for the Asking'."

An increasing demand for Extension Library service, coupled with several changes in staff, has made this year an exceptionally busy one. Reminders of the appreciation of the service are a regular source of encouragement. An eight-year old boy writes: "I really like the books you send. I can hardly wait till Daddy brings them home." An elderly man writes: "The books are a god-send to shut-ins." Other remarks from readers are: "Herewith \$2.00 for postage. Couldn't buy better service for any amount." "It is a really wonderful service to us who are not near to a lending library. I only wish I had known sooner." "You are doing a very great and necessary service for the rural people of Alberta."

Visual Instruction Division
(See Table IV)

Film circulation from the Visual Instruction Division library which increased rapidly in the post-war years to a peak in 1953-54, dropped decidedly in 1955 and 1956 due in part to the impact of television. Circulation would seem now to have stabilized at least temporarily at a level approximating the 1950-52 distribution. During the year, 17,000 reels of films were sent out as compared with 21,000 in the peak year. Audiences viewing these films however, were 479,000, which is somewhat higher than in the peak year. The use of 2"x2" slides and filmstrips has not changed substantially from last year although audiences have declined. This would suggest that the presentation of still picture material is more and more being confined to teaching purposes and less for general audience use. Generally speaking, circulation of both films and still pictures has followed the pattern experienced by other similar libraries in Canada and the United States on the introduction of television into the community.

Again, and probably due to television, members of the staff of the Visual Instruction Division have noticed a trend towards a more careful use of films in programming on the part of community organizations. Where programs of films of general audience interest were much in demand, requests are increasing for films on specific subjects to supplement and illustrate particular topics. Circulation of films outside the province has declined as film libraries in the adjoining provinces and in the Northwest Territories have grown.

As in the past, though in less formal manner, the Division has done some

work in promoting effective use of audio-visual aids and has acted as consultant to schools and organizations needing help in the selection and use of audio-visual equipment and in the selection of visual materials for their own libraries. Schools in particular have made good use of the services of the Division in the choice and purchase of filmstrips.

We would record again our appreciation to the Department of Education and the National Film Board for their cooperation and the many courtesies extended.

Petroleum Industry Training Service

The work of the P.I.T.S. during the year has been particularly successful. An increase in grant revenue from three sponsors, the Canadian Petroleum Association, the Canadian Association of Oilwell Drilling Contractors and the Petroleum and Natural Gas Conservation Board, has permitted an increase in staff and the purchase of much needed training equipment.

Paradoxically, while the support received from the oil industry in the provision of instructors, the loan of training equipment, etc. has been generous, a weakness of the service in the past has been a partial isolation from the industry which it serves. The increase in activity during the last eighteen months has made necessary a new form of organization. Operating under the Advisory Committee to the Petroleum Industry Training Service, there has now been organized a Drilling Training Committee of the C.A.O.D.C., whose function it is to advise on all matters pertaining to training instructors. Similarly, a Production Training Committee comprised of C.P.A. members has been formed to advise on the type and content of production training courses.

One of the main functions of the P.I.T.S. initially was that of providing a safety service for drilling companies not sufficiently large to employ their own safety supervisor. In the seven years of P.I.T.S. operation, this program has been extremely successful, and in all, seventeen companies have been provided with safety service. The original objectives now having been achieved, instruction on safety practices in the future will be incorporated in all training schools.

During the year under review, eighteen courses on technical subjects and in supervisory training were offered. Members of the staff visited three provinces and arranged and organized seventy-six schools which were attended by approximately 2,500 men. This is a considerable increase over the thirty-nine courses, with a total attendance of 896, offered during the years 1953-54-55. Of particular interest were such projects as the schools 'Unitized Operation of Oil Pools', 'Reservoir Engineering' and 'Treating Oilfield Emulsions'. These were new approaches and most successful.

Fine Arts Division

It is a source of satisfaction to record that the University's link with cultural life is strong. Through the medium of classes, meeting regularly at different points in the province, through intensive brief short courses and workshops and through the assistance and advice they have provided to individuals and groups, the extension specialists in the arts have made a notable contribution.

Music

The Choral Workshop approach to extension work in music continues to be a main area of endeavour because the interest and demand for instruction in Choral Singing and Conducting remains high. In fact during the year, four

part-time instructors were employed to help meet this demand. The number of Choral Workshops held in the past year has increased from seven to twelve. A concert, featuring a chorus made up of members of the Workshops, has been held at the conclusion of each series of classes. It has been satisfying to note that in most instances, the chorus has continued as a Community Choral group.

An outstanding part of the Extension Music program during the past year was a series of courses in choral work launched in eight centres in the Peace River area. Miss Bridget Headley, engaged as a sessional instructor, made her home in the North and gave four lectures a week from October to April. More than three hundred and fifty people registered for the ten week period, an average of forty-four per course with a most gratifying response. One singer with gnarled hands and ruddy face, on being asked why he joined the course, replied, "We have about licked the wilderness. I thought it was about time to start homesteading the cultural field". A Choral Festival featuring a massed choir of over two hundred of these students was a stimulating climax to this project. Plans are already underway to make the Peace River Choral Festival an annual event. The Extension Specialist was responsible for three Master Classes in Piano, one sponsored by the Extension Department and the others under local sponsorship. Kendall Taylor, pianist was heard in an Edmonton recital through the joint sponsorship of the University and local music organizations.

The University Mixed Chorus continues to be an outstanding public relations approach for the University as well as a noteworthy musical event. The annual spring tour in May 1956 included several towns in southern Alberta and in the Okanagan area of B.C. Choral Music of a high standard is presented each year in a dozen centres and these students are competent ambassadors of the University in almost four hundred homes.

Painting

The Community Art Class program of the university expanded considerably during the year under review. Twenty-five classes were held in nineteen centres with a total attendance of 473. Course content has been so arranged to permit a progressive development from year to year by the students. Emphasis has been put on a definite program for beginners as well as advanced students.

Two part-time instructors were engaged to help meet the increased demand for instruction. Film strips, two lecture tapes and art films were circulated as supplementary material. Planning meetings held with the executive of the local organization ensured a close relation between instruction and the class needs. Constructive criticism of student work was a feature of each class. Intensive Summer Short Courses in painting were arranged in Medicine Hat and Ralston and enthusiastically received.

A steadily increasing number of students from Community Art Classes are attending Banff School of Fine Arts. (Sixty percent of the Banff School of Fine Art's scholarships in painting went to Community Art Class students in 1955). The work of three students was accepted at the annual exhibition of the Alberta Society of Artists and six community art class students were among the thirteen western Canadian amateur artists whose work was accepted at the Canadian National Exhibition in Toronto. A travelling exhibition of forty-five Community Art Class pictures illustrating the work done in the province was selected and shown throughout Alberta. Local exhibitions reveal a very

satisfactory improvement in the technical ability of the students and have prompted greater public response.

Drama

A heightened interest in drama occasioned by the movement of the Dominion Drama Festival to Alberta this year has been evident in groups across the province.

Through correspondence and the provision of appropriate study materials and particularly through personal visits and sustained training courses, the extension specialist in drama has met an increasing demand from groups for help in choosing plays, in play production, in direction, make-up and staging. Thirteen drama workshops were arranged and held during the course of the year, at various points in the province. Of these centres, five were receiving instruction for the first time. The remainder were doing advanced work made possible through the training in previous years. Quite apart from these courses, with their more formal framework, 78 lectures, demonstrations and adjudications were prepared and presented by the Extension Specialists. In addition, a total of 57 one act plays were adjudicated at ten school and community festivals.

An essential part of effective community drama is the expert behind-the-scenes organization. This job of liaison has been an important contribution of the University of Alberta drama. The results—publicity noted by adjudicators—have been evident in the overall standard of the productions, the smooth working arrangements and enthusiastic audience reception. Typical of comments made by adjudicators is that of Miss Pamela Stirling of London, England, who said in a CBC interview following the 1956 Regional Festival at Medicine Hat, "I saw good theatre in Canada. I saw it in Alberta". The forecast of many more entries in the 1958 Regional Festival will make necessary, for the first time, a pre-regional festival for three act plays in both the north and south of the province.

It has been said that the foundation of good theatre rests on the development of playwrights. The response this year to a playwrighting competition arranged by the University in conjunction with the I.O.D.E. has been most encouraging.

Staff

Once again it is a pleasure to record our appreciation of the interest, the practical assistance and the painstaking effort of all members of the University staff which alone have made possible this broad and vigorous extension program. One of the great sources of satisfaction for the extension worker is the invariably cordial cooperation offered and the response met from business and industry, government agencies, farm and professional organizations and numerous small community organizations. This report should certainly include an expression of thanks in particular to all members of the staff of the Department of Extension who have carried a heavy load cheerfully and well.

This report records with regret the resignation of Miss Flora Macleod, Extension Librarian and of John H. Wilson who leaves to join the C.A.O.D.C., a sponsor of the P.I.T.S. Word of the untimely death of Hugh O. Murray of the P.I.T.S., while in the field, was received with profound regret by all members of the staff. Mr. W. H. McKay was appointed this year Supervisor of the Petroleum Industry Training Service. He is joined by Mr. Frank Gee of Calgary in the capacity of Drilling Training Instructor.

Banff School of Fine Arts

The Banff School of Fine Arts and Centre for Continuing Education continued its steady growth and development during the year. Four hundred and eighty-seven persons made a total of five hundred and fifty-eight registrations in the Fine Arts program extending from July 18th to September 12th. As the figures indicate, a number of students were registered in more than one course, such as the student who takes painting in the morning and ceramics or writing in the afternoon. An arrangement of this kind is permitted only in the case of students who are not taking the courses for certification or credit.

The largest numbers of students were enrolled in the painting and music divisions with ballet next and then drama in that order. Enrolments in handicrafts, particularly weaving, are increasing and the registration in ceramics taxed the limited space to capacity. Equally enthusiastic were the students in the Oral French, creative writing and photographic divisions, with the result that the 24th Annual Summer Session was one of the strongest and best balanced since the School began twenty-four years ago.

The Banff Summer Festival, which used to be limited to the last week of the School, has now been extended to the point where on twenty out of a total of forty nights during the main summer session, there are either recitals, panel discussions, plays, operas, ballet performances or exhibitions which are open to the public.

The major works produced in 1956 were: a workshop production of Kurt Weill's folk opera "Down in the Valley" and a full-fledged production of Mozart's "Abduction from the Seraglio", under the leadership of Dr. Ernesto Vinci and Mrs. Eileen Higgin. Still in the musical field, Professor R. S. Eaton and the Banff School's ninety voice choir gave a thrilling performance of Mozart's Requiem Mass. In addition, recitals were given by Dr. Vinci, Mr. and Mrs. Clayton Hare, the Williams' String Quartet, and by groups of advanced students in the vocal and instrumental fields. For the first time in the history of the School one of its productions, the opera "Abduction from the Seraglio" was taken to Calgary where it was performed before a large and appreciative audience in the Grand Theatre.

The drama division continued its very successful plan of putting on two evenings of "Excerpts from Shakespeare". This annual program of selections from the more important and dramatic of Shakespeare's plays is put on in cooperation with the ballet division, which, under the direction of Miss Gwennyth Lloyd of the Royal Winnipeg Ballet and Miss Betty Farally of the same organization, usually makes for a first class evening's entertainment. The final production of the drama division was a good two-evening production of "The Admirable Crichton". The division was again under the direction of Miss Esther Nelson and she was assisted by Miss Bette Anderson, Dr. Van Machlin of New York, Donald Pimm of Edmonton, Ralph Margetts of Chico, California and Carl White of Iowa City.

A talented group of pianists performed under the leadership of Professor Randolph Hokanson of the University of Washington, while the strings section was again under the direction of Clayton Hare, who is now Dean of Music at the University of Portland. The weaving division under Mrs. Ethel Henderson of Winnipeg and Mrs. Mary Sandin of Edmonton had one of its best years with some thirty enthusiastic weavers working almost day and night. The ceramists and potters under Mrs. Sybil Laubenthal of Edmonton turned out a great variety of very interesting work and here again it was often

necessary to practically shoo the students out of the lab so that it could be locked up at ten o'clock at night. Good quality work was turned in by the students in creative writing and in the photographic divisions. Professor Sylvan Karchmer of the University of Oregon and Dr. Denis Godfrey of the University of Alberta were in charge of the writers and Professor W. V. Crich of Toronto had a most enthusiastic group of photographers in his classes. A large class of painters under instruction from H. G. Glyde, M. W. MacDonald, W. J. Phillips, Charles Stegeman, Francoise Andre and Harry Wohlfarth made the most of the summer of almost perfect weather and turned in a large number of canvasses of great variety and interest. The exhibition of paintings during the last week of the School drew interested crowds for days. The crowning achievement for the painters, crafters and photographers came in the very fine joint exhibition which was tastefully and artistically arranged by the artists in cooperation with Mrs. Helen Bentley of the Interior Decoration section. Altogether, 1956 can be entered in the records as one of the best years since the School was established in 1933.

While the Banff school of Fine Arts is best known for its work in the fine arts, it is rapidly developing into the foremost residential adult education centre in Canada. In the months apart from July and August some fifty-eight groups with a total registration of 5,500 people spent from as little as three days to as much as six weeks in intensive short courses at the School. These included church groups of many denominations holding workshops and leadership training programs of one kind or another; citizenship groups working towards the integration of Canada's many immigrants; home and school groups discussing education in all its many phases; business short courses in personnel management, executive training, supervisory training, life insurance marketing and leadership training for the rural community. Hence the second part of the School's title: "Centre for Continuing Education" is becoming a significant reality in Canadian education.

The Banff School of Advanced Management

Started as an experiment in 1952 by the University of Alberta, the Banff School of Advanced Management has in six years grown to one of the important management training centres in Canada. Beginning with an enrolment of 24 executives in 1952, the School has grown to 35 in 1953; 68 in 1954; 69 in 1955; 77 in 1956 and to 92 in 1957. While the original class was mainly from Alberta, the 1957 registration came from six of the Canadian provinces and from some of the states of United States. Although started by the University of Alberta, the School is sponsored as a cooperative venture between the four universities of Alberta, British Columbia, Saskatchewan and Manitoba. Among the executives attending the annual six week sessions are representatives of most Canadian industries and businesses. The 1957 class as an example included 18 men from the petroleum and petro-chemical industries; 9 from the lumber and forest industries; 4 from manufacturing; 4 from merchandising; 7 from cooperatives in grain handling and wholesaling; 3 from banking; 2 from newspapers; 3 from mining; from utilities, 7; wholesale distribution, 9; metal manufacturing and fabricating, 6; life insurance, 4; government and armed services, 2; professional, 2; and miscellaneous, 13.

The subject matter of the program presented by a combination of the lecture, seminar and case methods of study includes: The Canadian Economic Scene, Business Policy, Human Relations, Labor Relations, Personnel Administration, Financial Controls, Financing Enterprise, Production Management, Market-

ing, and Government and Business. Careful attention is paid to securing the maximum degree of student participation by organizing the class into a number of study groups of not more than seven or eight people. These groups meet for two hours every evening five evenings a week for the purpose of discussing and analysing practical business cases and problems which have been assigned to them in class. Emphasis is placed on keeping the course as practical as possible consistent with providing the maximum amount of background information necessary to the proper discussion of the topics. The course is also designed to develop a wider horizon and a new sense of the increasingly important dual role that the executive must play in his community as business man and citizen.

The School is staffed by a highly qualified group of twelve university instructors and business men brought together from all over Canada and the United States, but the core of the teaching staff necessary to maintain continuity is provided by Schools of Commerce of the four participating universities. These men have discharged their responsibilities so well that in each of the last three years a substantial number of students have had to have their applications for admission deferred one year. In spite of careful screening of candidates and deferments, the demand has continued to grow to such an extent that from this year forward it is proposed to organize two schools a year; one to be held in November and December and the second at the usual time in February and March. The great demand for this type of executive training is at once a reflection of Canada's thriving economy and a portent of a new and closer relationship between adult education and the business community.

The Short Course in Executive Development

The fourth annual Short Course in Executive Development was held at the Banff School of Fine Arts from March 18th to 30th and immediately following the Banff School of Advanced Management. The purpose of this short course is to provide an opportunity for a younger group of executives and for those who cannot get away from their businesses for six weeks to take a more limited but equally intensive version of the advanced management course. The subjects are fewer in number being limited to three or four at the most. These were: Human Relations, Labor Relations, Financing Enterprise, and Financial Controls. The staff, as in the case of the advanced management program, is recruiting from Canadian and American universities and from business. The enrolment at the present time comes mainly from the four western provinces and this year numbered twenty-two.

Table II—Short Courses, Classes, Workshops and Conferences Arranged and Organized by the Department of Extension

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
A. EVENING DIVISION					
1. Essentials of Written English		Edmonton	Oct. 15-Mar. 25	30	24
2. Social Philosophy		Edmonton	Oct. 15-Mar. 25	30	10
3. Life Painting		Edmonton	Oct. 15-Mar. 25	40	19
4. Fundamentals of Drawing		Edmonton	Oct. 15-Mar. 25	40	22
5. French Conversation		Edmonton	Oct. 16-Feb. 12	46	15
6. French Conversation		Edmonton	Oct. 16-Feb. 13	46	16
7. Portrait Painting		Edmonton	Oct. 17-Mar. 27	40	15
8. Pictorial Composition		Edmonton	Oct. 17-Mar. 27	40	41
9. Elementary Security Analysis for the Wise Investor		Edmonton	Oct. 18-Dec. 6	12	24
10. Art History and Appreciation		Edmonton	Oct. 18-Jan. 10	15	13
11. Psychology of Personal and Social Adjustment		Edmonton	Oct. 23-Feb. 19	23	52
12. Conference Course in Ukrainian		Edmonton	Oct. 24-Jan. 30	18	25
13. Four Gospels		Edmonton	Oct. 25-Jan. 17	15	14
14. Effective Reading		Edmonton	Oct. 29-Jan. 28	15	37
15. Effective Reading		Edmonton	Oct. 31-Jan. 30	15	49
16. Public Speaking		Edmonton	Nov. 13-Feb. 12	30	53
17. Income Tax Procedure in Business		Edmonton	Jan. 14-Mar. 18	15	33
18. Fundamentals of Gardening		Edmonton	Jan. 14-Mar. 18	15	30
19. Chairmanship		Edmonton	Jan. 14-Mar. 25	15	20
20. Comparative Religion		Edmonton	Jan. 16-Mar. 6	15	39
21. Courtship, Marriage and Family Life		Edmonton	Jan. 16-Mar. 20	15	14
22. Geology		Edmonton	Jan. 17-Apr. 4	18	48
23. Life Painting and Drawing		Edmonton	Jan. 24-Apr. 11	24	12
24. Effective Reading		Calgary	Jan. 29-Apr. 2	20	29
25. Landscaping the Small Lot		Calgary	Jan. 29-Apr. 16	18	49
26. French Conversation		Calgary	Jan. 30-May 8	23	14
27. French Conversation		Calgary	Jan. 30-May 9	23	18
28. Law in Action		Calgary	Jan. 30-Apr. 3	15	35
29. Effective Reading		Calgary	Jan. 29-Apr. 2	20	20
30. Effective Reading		Calgary	Feb. 13-Apr. 3	20	18
31. Psychology of Personality and Adjustment		Calgary	Jan. 31-May 9	23	44
B. RURAL, COMMUNITY AND AGRICULTURAL SHORT COURSES AND CONFERENCES					
32. Soil Inspection	Dep't. of Soils, Provincial Dept. of Lands and Forests	Edmonton	May 7-May 9	18	24
33. Farm Young Peoples' Week	Faculty of Agriculture, School of Household Economics	Edmonton	June 5-June 13	45	102
34. Community Forum	Hanna Community	Hanna	July 26-July 28	24	60
35. Community Forum	Cardston Community	Cardston	Aug. 2-Aug. 4	24	35

36. United Nations Summer School for high school students	Alberta Branches, U.N. Association of Canada	Aug. 22-Aug. 27	33	79
37. Rural Leadership Techniques	A.W.P.; U.G.G.; F.U.A.	Oct. 29-Nov. 9	88	27
38. Western Citizenship Conference	Juniors; U.F.A. Co-Op; Canadian Council of Christians and Jews	Sept. 9-Sept. 14	30	34
39. Committee Members' Workshop	Vegreville Exhibition Association	Jan. 10-Jan. 11	10	30
40. Community Leadership Course	F.U.A.	Mar. 5-Mar. 6	12	62
41. F.U.A. Workshops	F.U.A.	April 10	6	65
42. F.U.A. Workshops	F.U.A.	April 11	6	50
43. F.U.A. Workshops	F.U.A.	April 12	6	40
44. F.U.A. Workshops	F.U.A.	April 6	6	35
45. F.U.A. Workshops	F.U.A.	Apr. 19-Apr. 20	12	27

C. FINE ARTS, EXTENSION CLASSES AND WORKSHOPS

46. Community Art Classes	High River	Oct. 1-Apr. 1	18	9
47. Community Art Classes	Nanton	Oct. 1-Apr. 1	55½	38
48. Community Art Classes	Vulcan	Oct. 2-Apr. 2	26	16
49. Community Art Classes	Lethbridge	Oct. 3-Apr. 3	31	24
50. Community Art Classes	Ralston	Oct. 4-Apr. 4	42	15
51. Community Art Classes	Medicine Hat	Oct. 5-Apr. 6	75	75
52. Community Art Classes	Grande Prairie	Oct. 8-Mar. 12	29	21
53. Community Art Classes	Ft. Saskatchewan	Oct. 10-Apr. 10	21	14
54. Community Art Classes	Lloydminster	Oct. 11-Mar. 14	23	25
55. Community Art Classes	Athabasca	Oct. 12-Mar. 15	43	34
56. Community Art Classes	Sylvan Lake	Oct. 15-Apr. 8	27	30
57. Community Art Classes	Drumheller	Nov. 20-Mar. 19	16½	14
58. Community Art Classes	Castor	Oct. 17-Apr. 10	37	33
59. Community Art Classes	Lacombe	Oct. 18-Apr. 11	24½	15
60. Community Art Classes	Banff	Oct. 17-Apr. 18	57	14
61. Community Art Classes	Red Deer	Oct. 19-Apr. 12	22½	15
62. Community Art Classes	Wetaskiwin	Oct. 20-Apr. 13	19½	15
63. Community Art Classes	Camrose	Oct. 20-Apr. 13	20½	15
64. Community Art Classes	Viking	Oct. 24-Mar. 27	24	25
65. Short Course in Art	Medicine Hat	June 4-June 9	60	12
66. Short Course in Art	Ralston	July 30-Aug. 3	40	14
67. Choral Workshops	Banff	Oct. 1-Dec. 3	20	49
68. Choral Workshops	Cochrane	Oct. 3-Dec. 5	20	36
69. Choral Workshops	Beaverlodge	Oct. 15-Dec. 17	20	32
70. Choral Workshops	Grande Prairie	Oct. 16-Dec. 18	20	44
71. Choral Workshops	Ft. St. John	Oct. 18-Dec. 20	20	30
72. Choral Workshops	Dawson Creek	Oct. 19-Dec. 21	20	20
73. Choral Workshops	Fairview	Jan. 14-Mar. 18	20	67
74. Choral Workshops	Peace River	Jan. 15-Mar. 19	20	45
75. Choral Workshops	McLennan	Jan. 17-Mar. 21	20	83
76. Choral Workshops	High Prairie	Jan. 18-Mar. 22	20	30
77. Choral Workshops	Thorsby	Jan. 21-Mar. 25	20	46
78. Choral Workshops	Stettler	Feb. 11-Apr. 15	20	42
79. Harmony and Counterpoint	Edmonton	Nov. -Dec. 18	25	8
80. Modelling and Sculpture	Edmonton	Oct. 4-Mar. 7	40	19

Table II—continued

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
81. Pottery		Edmonton	Oct. 15-Apr. 15	144	12
82. Pottery		Edmonton	Oct. 9-Apr. 2	144	12
83. Master Class in Pianoforte		Grande Prairie	Aug. 30-Sept. 1	24	8
84. Drama Workshop		Brooks	Apr. 10-Apr. 12	10	19
85. Drama Workshop		Jasper Place	Apr. 8-May 5	10	10
86. Drama Workshop		Medicine Hat	Apr. 24-Apr. 26	10	11
87. Drama Workshop		Ralston	May 14-May 16	01	22
88. Drama Workshop		Stettler	Sept. 25-Sept. 27	10	16
89. Drama Workshop		Lethbridge	Oct. 2-Oct. 4	10	26
90. Drama Workshop		Ralston	Oct. 9-Oct. 11	10	12
91. Drama Workshop		Ralston	Oct. 17-Oct. 19	10	19
92. Drama Workshop		Calgary	Oct. 22-Oct. 25	12	15
93. Drama Workshop		Coaldale	Nov. 6-Nov 8	10	8
94. Drama Workshop		Taber	Nov. 21-Dec. 10	12	10
95. Advanced Acting		Stettler	Nov. 2-Apr. 3	40	15
96. Drama Workshop		Edmonton	Nov. 5-Mar. 26	12	22
		Atabasca			
D. BUSINESS, INDUSTRIAL and PROFESSIONAL COURSES					
97. Medical and Industrial Forum on Alcoholism	Alcoholism Foundation of Alberta	Banff	April 2-April 5	20	127
98. Librarians of Small Libraries	Alberta Library Association	Lethbridge	May 22-May 25	20	20
99. Financial Management and Petroleum Accounting	Petroleum Accountants Society	Banff	May 16-May 18	15	78
100. Life Insurance Marketing	Alberta Life Underwriters Association; Life Insurance Marketing Institute of Purdue University	Banff	June 11-June 16	27	56
101. School Administration	Dep't. of Education, A.S.S.A.; A.S.T.A.	Banff	June 18-June 20	15	113
102. Municipal Administration	Dep't. of Municipal Affairs, A.A.M.S.T.	Banff	June 20-June 22	15	66
103. Industrial Organization and Management	School of Commerce	Edmonton	Oct. 1-Feb. 23	30	27
104. Clinical Medicine for Chiropractors	Alberta Chiropractors Association	Edmonton	Oct. 1-Oct. 2	12	7
105. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 2-Feb. 26	30	28
106. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 2-Feb. 26	30	23
107. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 2-Feb. 26	30	13
108. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 2-Feb. 26	30	24
109. Business Mathematics	Society of Industrial and Cost Accountants	Edmonton	Oct. 4-Feb. 28	30	47
110. Accounting II	Society of Industrial and Cost Accountants	Edmonton	Oct. 4-Mar. 1	30	35
111. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 1-Feb. 25	30	25
112. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 1-Feb. 25	30	21
113. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 1-Feb. 25	30	16
114. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 2-Feb. 26	30	19
115. Accounting II	Society of Industrial and Cost Accountants	Calgary	Oct. 2-Feb. 26	30	38
116. Industrial Organization and Management	Society of Industrial and Cost Accountants	Calgary	Oct. 4-Feb. 28	30	34

117. Business Mathematics	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Mar. 1	30	31
118. Business Mathematics	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Mar. 1	30	29
119. Supervisory Training	School of Commerce	Edmonton	Oct. 22-Feb. 12	28	30
120. Supervisory Training	School of Commerce	Edmonton	Oct. 23-Feb. 13	28	25
121. Supervisory Training	School of Commerce	Calgary	Oct. 23-Feb. 13	28	26
122. Management Development	School of Commerce	Edmonton	Oct. 22-Feb. 12	28	17
123. Organization Study	School of Commerce	Edmonton	Oct. 24-Jan. 30	28	17
124. Wage and Salary	School of Commerce	Edmonton	Oct. 24-Jan. 30	28	11
125. Management Development	School of Commerce	Calgary	Oct. 25-Jan. 24	28	11
126. Personnel Administration	School of Commerce	Calgary	Oct. 25-Jan. 24	28	14
127. Personnel Administration	School of Commerce	Edmonton	Oct. 26-Feb. 1	28	21
128. Personnel Management	Calgary & Edmonton Personnel Associations	Banff	Oct. 26-Feb. 1	57	21
129. Prospecting	G.I.M.M. and Alberta N.W. Chamber of Mines	Edmonton	Nov. 18-Dec. 1	57	15
130. English Usage		Edmonton	Jan. 17-Feb. 28	20	64
131. English Usage		Correspondence	Jan. 19-Mar. 16	16	28
132. English Usage		Calgary	Jan. 19-Mar. 16	9	16
133. Managing Investments	Investment Dealers Association	Calgary	Mar. 23-May 18	16	14
134. Managing Investments	Investment Dealers Association	Calgary	Jan. 24-Mar. 6	11	67
135. International Affairs Seminar		Calgary	Jan. 24-Mar. 6	11	77
136. Wage and Salary Study	School of Commerce	Edmonton	Feb. 13-Apr. 17	20	10
137. Supervisory Training	School of Commerce	Calgary	Feb. 18-May 20	28	22
138. Supervisory Training	School of Commerce	Edmonton	Feb. 18-May 27	28	26
139. Maternal Health Course	School of Nursing, Provincial Department of Health	Edmonton	Feb. 18-May 27	28	22
140. In Service Training for Sanitary Inspectors	Canadian Institute of Sanitary Inspectors and Faculty of Agriculture	Edmonton	Mar. 18-Mar. 29	60	27
			Apr. 8-Apr. 13	36	34
E. PETROLEUM INDUSTRY TRAINING SERVICE COURSES					
141. Oilwell Drilling Safety Clinic	Canadian Petroleum Association	Banff	May 3-May 4	48	283
142. Drilling Bits	Canadian Petroleum Association	Sundre	May 15	6	63
143. Engine Maintenance	C.A.O.D.C.	Red Deer	May 16	6	67
144. Geology	C.A.O.D.C.	Edmonton	June 1-June 30	120	16
145. Job Instruction Training	P. & N.G.C.B.	Drayton Valley	June 11-June 15	10	10
146. Pumping Engines and Units	P. & N.G.C.B.	Drayton Valley	June 11-June 22	30	31
147. Vapour and Gravity Control	P. & N.G.C.B.	Drayton Valley	June 14-June 21	6	35
148. Sucker Rod Pumps	P. & N.G.C.B.	Drayton Valley	June 12-June 19	6	43
149. Sucker Rod Pumps	P. & N.G.C.B.	Devon	June 25	6	56
150. Vapour and Gravity Control	P. & N.G.C.B.	Devon	June 26	6	52
151. Vapour and Gravity Control	P. & N.G.C.B.	Red Water	June 29	6	39
152. Sucker Rod Pumps	P. & N.G.C.B.	Red Water	June 28	6	60
153. Mud School	P. & N.G.C.B.	Olds	July 3-July 5	9	30
154. Mud School	P. & N.G.C.B.	Valleyview	July 17-July 19	9	33
155. Care and use of Wire Rope	P. & N.G.C.B.	Ft. St. John	July 25	6	34
156. Drilling Bits	P. & N.G.C.B.	Ft. St. John	July 26	6	25
157. Engine Maintenance	P. & N.G.C.B.	Estevan	August 20	6	62
158. Drilling Bits	P. & N.G.C.B.	Estevan	August 21	6	79
159. Supervisory Training	P. & N.G.C.B.	Estevan	Aug. 17-Aug. 19	6	6
160. Handling Wire Line	P. & N.G.C.B.	Sundre	September 19	6	15

Table II—continued

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
161. Handling Wire Line	P. & N.G.C.B.	Buck Lake	September 20	6	30
162. Handling Wire Line	P. & N.G.C.B.	Olds	October 19	3	4
163. Supervisory Training	P. & N.G.C.B.	Red Deer	Oct. 16-Oct. 17	6	15
164. Gas Metering	P. & N.G.C.B.	Red Water	October 23	3	36
165. Gas Metering	P. & N.G.C.B.	Camrose	October 26	3	25
166. Treating Oilfield Emulsions	P. & N.G.C.B.	Edmonton	Nov. 19-Nov. 23	30	52
167. Introduction to Reservoir Engineering	P. & N.G.C.B.	Calgary	Nov. 27-Nov. 30	12	73
168. Drill Pipe	P. & N.G.C.B.	Drayton Valley	December 13	6	15
169. Drill Pipe	P. & N.G.C.B.	Olds	December 19	6	37
170. Gas Metering	P. & N.G.C.B.	Drayton Valley	January 16	3	25
171. Gas Metering	P. & N.G.C.B.	Drayton Valley	January 17	3	25
172. Unitized Operation of Oil Pools	P. & N.G.C.B.	Calgary	Jan. 30-Feb. 1	9	271
173. Drilling Bits	P. & N.G.C.B.	Valleyview	April 4	6	88
174. Engine Maintenance	P. & N.G.C.B.	Sundre	April 24	6	50
175. Engine Maintenance	P. & N.G.C.B.	Drayton Valley	April 18	6	80
176. Engine Maintenance	P. & N.G.C.B.	Camrose	April 13	6	19
177. Engine Maintenance	P. & N.G.C.B.	Edmonton	April 11	6	64
178. Engine Maintenance	P. & N.G.C.B.	Valleyview	April 6	6	56
					6,274

TABLE III—STATISTICAL INFORMATION, EXTENSION LIBRARY

Open Shelf

	1955-56	1956-57	Difference
Adult books	42,106	51,066	8,960
Plays	1,931	1,719	—212
Periodicals and pamphlets	2,524	2,577	53
Juvenile books	5,521	6,952	1,431
	52,082	62,314	10,232

Travelling Libraries

No. of Travelling Libraries sent out:
(35-40 books per box)

	1955-56	1956-57
Adult		128
Mixed (adult and juvenile)		19
Juvenile		427
	659	674

Circulation

(Recorded outside the Library)	46,280	50,895	4,615
Banff School of Fine Arts	1,120	927	—193
	99,482	114,136	14,654
Total Circulation			
Reference questions	856	873	17

Book Stock

At April 1, 1956	41,531
Accessions	3,003
Withdrawals	2,658
At April 1, 1957	44,189

Membership

Open Shelf (Number of Current postage accounts)	5,899
Travelling Libraries (Number of groups to whom libraries were sent)	288

TABLE IV—STATISTICAL INFORMATION, DIVISION OF VISUAL INSTRUCTION

Number of Moving Picture Films in Library:

Silent, 8mm and 16mm	527
National Film Board Films	874
Sponsored Films	257
Sound Films, General	1,503
Total Films in Library	3,361

Number of new films added to the library during the year

(included in the above)	110
Number of filmstrips in library	2,101
Number of sets of 2x2 slides in library	203

FILM CIRCULATION

	1956-57	1955-56	Com- parison
Number of reels silent film sent out	656	840	—275
Number of reels sound film sent out	16,107	16,390	—283
Total sets of moving pictures sent out	3,922	4,507	—135
Total number of showings of films, sound and silent	5,345	5,775	—430
Total audience viewing films	478,695	477,430	—1,265
Number of times projection service supplied	254	290	—36
Number of screenings for groups in screening room	48	41	+7

SLIDES AND FILMSTRIPS

	1956-57	1955-56	Com- parison
Number of 2x2 slides sent out	174	138	36
Total audience viewing slides	4,628	4,356	272
Individual filmstrips sent out	3,368	3,713	—345
Total audience viewing strips	79,907	86,653	—6,746

TABLE V—GENERAL STATISTICAL SURVEY

Lectures			
University staff	1,740		
Department of Extension staff	718		
		2,458	
Aggregate Attendance			100,643
Number of Radio or TV Talks			
University staff	119		
Extension staff	29		
		148	
Conferences and short courses, Table II		178	
Total attendance			6,274
Studio Theatre attendance		5,050	
Feeders' Day attendance	1,200		
High River Feeders' Day	350		
Breton Field Day	300		
Soil Science Field Day—2 days	25		
		1,875	
Visual Instruction			
Number of 2x2 slides sent out		174	
Total audience viewing slides			4,628
Individual filmstrips sent out		3,368	
Total audience viewing filmstrips			79,907
Number of reels of silent film sent out		565	
Number of reels of sound film sent out		16,107	
Total sets of moving picture films sent out		3,922	
Total showings of films, sound and silent		5,345	
Total audience viewing films			478,695
Number of times projection service supplied		254	
Number of screenings for groups in screening room		48	
Total number of screenings		302	

Library circulation

Travelling Libraries	50,895
Open Shelf	
Adult books	51,066
Juvenile books	6,952
Plays	1,719
Periodicals and pamphlets	2,577
TOTAL	62,314
Study Group Material	
Number of Citizens' Forum Bulletins sent out	2,425
New Canadian Plays	
Number of copies of New Canadian Plays sold	228

Report of Dr. R. D. Stuart, Director, Provincial Laboratory of Public Health, for the year 1956

During 1956 the Provincial Laboratories carried out 396,933 examinations an increase of 27,907 over 1955. This expansion is evident in practically every section of the Edmonton laboratory, which recorded a 10% overall increase, whereas the figures from the majority of the sections of the Calgary laboratory have remained steady. This in no way reflects on the efficiency of the Calgary laboratory, which under the energetic direction of Dr. Shute has offered a high quality service, but rather emphasizes what he has pointed out on many previous occasions, the unsuitable location of the laboratory. Its situation 13 miles out of town and outside the transport and delivery area of the city, has always presented difficulties to the practitioners who wish to consult it and created problems in connection with the retention of staff and the shipping of specimens. Dr. Shute also points out that his laboratory buildings require an increasing amount of maintenance each year, which may indicate that the conversion and adaptation of second-hand structures is not necessarily a long term economy.

Special Trends

There has been no further development in the provision of facilities for virus diagnosis; though the plans, mentioned in last year's report, have continued to mature. It is understood, however, that Departmental approval has now been obtained for the construction of a new wing to the Provincial Laboratory. The plans include space for the development of a virus service. The new wing also includes space and facilities for the evolution of an extended hospital diagnostic and reference service in pathology and bacteriology. In view of the prospective increase in such services this seems a desirable and necessary trend. Currently the maintenance of an adequate hospital service in immediate association with the continually growing volume of Public Health services is becoming administratively more and more difficult.

The most noticeable trend in community disease during the year is the marked increase in bacillary dysentery. This is readily evident in the figures from the southern laboratory where 30 isolations were recorded as compared with 8 in 1955. The Edmonton laboratory recorded 74 isolations, with a much wider variety of bacterial species though with a smaller total number of isolations than in the preceding year. In 1955 one local outbreak of sonnei dysentery was extensively investigated whereas this year only representative isolations were obtained from a much larger series of outbreaks and a much

greater number of cases. The increased number of examinations for diphtheria carried out in both laboratories may be coincidental but may be an early indication of some increase in this disease in the Province.

Another trend which has indirectly affected both laboratories is the growing interest in hospital hygiene. This has arisen as a direct consequence of the increased incidence of hospital staphylococcal infections mentioned in last year's report. Both your laboratories have been concerned with this, in the direct examination of hospital materials and personnel, and in a large amount of consultant service which is not indicated in the following tables.

New or Supplementary Services

The new service, anti-streptolysin tests on blood serum, offered by the central laboratory last year has been extended. 811 sera were received for investigation from cases such as rheumatic fever or glomerulonephritis, in which the streptococcal etiology was reasonably evident to cases of mild arthritis, fatigue and muscle pains, and various cardiac conditions in which the establishment through this test of a streptococcal etiology would be beneficial in therapy.

As might have been expected from the increasing importance of staphylococcal infections and the increased interest in determining their mode of spread in hospitals the new bacterial phage-typing service has been extensively employed. During the year 5290 strains of staphylococci were typed as compared with 1306 last year. This involved no fewer than 46,176 individual tests, though the smaller figure has been shown in the accompanying tables to avoid over-emphasis on this work. In Calgary a newly recognized clinical entity, staphylococcal diarrhoea in infants, has been investigated by Dr. E. Crichton and is now readily diagnosed by laboratory methods. This service has already been extensively used by local physicians.

The identification, in studies carried by Dr. C. R. Amies during the year, of a new bacterial agent probably responsible for a considerable amount of minor genito-urinary infection in males and females, has opened the way for a possible supplementary service. Development of this will necessarily await clinical demand and availability of suitable staff.

A most important, but very time-consuming, supplementary service during 1956 has been the distribution of Poliomyelitis Vaccine. This has been carried out on a province-wide scale from the Central Laboratory in Edmonton in collaboration with the Division of Communicable Diseases. The shipping agencies are so varied and the necessity for adherence to a detailed time schedule is so evident that the amount of staff time consumed in the process can readily be appreciated.

Regular Services

In Pathology the microscopic examination of human tissues, especially for evidence of malignant changes, has continued to be a major activity. Dr. Macgregor points out that in the central laboratory these examinations have increased by over 1000 (approximately 8%) from the previous year while the Calgary increase of 888 is even more dramatic, being 21% over the previous year's total. In Edmonton 978 cancers were thus diagnosed or confirmed and in Calgary 394 were similarly identified.

In the very large volume of routine diagnostic specimens received in the laboratories many interesting and unusual cases have appeared. Examples of these from the bacteriological section of the Central Laboratory include a brain

abcess, caused by *Pasteurella multocida*, secondary to a respiratory infection with the same organism. This organism is normally associated with certain forms of animal disease but is rarely a human pathogen. One case of abdominal actinomycosis was encountered and a most unusual case of cutaneous diphtheria in an adult was diagnosed. The laboratory identification of these unusual conditions reflects great credit on the technical personnel primarily concerned.

The examinations listed under "Sanitary Bacteriology" have tended to increase in the Edmonton laboratory but have shown a sharp decrease in Calgary. This is accounted for by the fact that the City of Calgary Health Department now operates a small laboratory to process milk and water samples obtained within the city boundaries.

The continual increase in requests for examinations for fungus infection is again evident. In response to this Dr. Carmichael wrote a "Physicians Guide to Alberta Mycoses" which was published in the Alberta Medical Bulletin last December. A number of reprints of this article have been obtained and will be issued to Alberta physicians on demand. The frequency with which *Trichophyton verrucosum* was isolated is worthy of note. Before 1945 this fungus was considered to be a parasite of cattle only and human infections were regarded as oddities. This year *T. verrucosum* comprised 36.5% of our isolations at the Edmonton Provincial Laboratory, thus replacing *T. mentagrophytes* as our most common dermatophyte. Whether this expresses a change in the type of cattle ringworm or in the transmissibility of the organism is not yet clear.

Staff

The heavy load of diagnostic work carried out by the Division of Pathology could no longer be maintained were it not for Dr. Macgregor's interest in the training of young pathologists and the popularity of his University Department and Provincial Laboratory Division as a training ground. A variable number of medical graduates have so far been regularly available as internes in Pathology. In 1956 two young physicians, Dr. G. O. Bain and Dr. R. F. Scott, who had taken all or part of their training in this way, were certificated by the Royal College of Physicians and Surgeons of Canada as Specialists in Pathology. Tribute to Dr. Macgregor and his Departmental staff is long overdue in this respect, and the service obtained by the Provincial Laboratory from these trainees is overwhelmingly greater than its trivial financial contribution indicates.

During the year Dr. C. R. Amies was transferred from the Department of Bacteriology to head the University Department of Preventive Medicine. He has been retained however on the Provincial Laboratory staff as virologist and consultant. Until some specific provision can be made for the development of virological services Dr. Amies will continue to assist the laboratory in its current operations.

Staff difficulties have persistently plagued both laboratories. The appeal of more remunerative or of less burdensome employment has continued to divert an ever increasing number of trained technical and clerical personnel from this service. In the current inflationary trend of our economy no end to this process is in sight.

LABORATORIES

Year 1956

<i>Control of Common Infections</i>	Edmonton	Calgary
Diphtheria	4,636	1,100
Enteric-dysentery	6,801	2,380
Fungus Infections	1,634	49
Intestinal Parasites	198	59
Naso-pharyngitis	8,057	1,387
Tularaemia serology	1,963	822
Tuberculosis	9,396	1,892
Undulant Fever Serology	1,963	822
Whooping Cough	54	11
<i>Other diagnostic and miscellaneous</i>		
Animal inoculations (other than T.B.)	170	13
Antibiotic etc. sensitivities—disc	89,757	17,188
tube	12	
Blood cultures	1,195	182
Leptospirosis	153	
Miscellaneous	16,371	3,059
Paul Bunnell test	864	226
P.M. Bacteriology	256	
Referred cultures	324	18
Special Investigations	5,290	3
Trichomonas	3,894	6
Virus infections	89	
<i>Venereal Disease Control</i>		
Chancroid etc.	9	
Gonorrhoea—Smears:	9,898	5,793
Cultures:	3,899	29
Syphilis	119,000	35,405
<i>Sanitary Bacteriology</i>		
Food Products	61	3
Milk and Cream	3,142	3,682
Water	5,898	6,635
Utensils		260
<i>Pathology</i>		
Diagnostic cytology—blood smears	200	165
bone marrow	47	11
fluids	310	372
Routine diagnostic histology—specimens	13,531	5,170
Routine diagnostic autopsies	354	6
Medico-legal autopsies	68	
Referred diagnostic histology	19	1
Pregnancy Diagnosis—Frog test	650	
Rabbit test	21	
Totals	310,184	86,749

TABLE II—CONTROL OF ENTERIC-DYSENTERY INFECTIONS

<i>Examinations</i>	Edmonton	Calgary
Blood and Clot Cultures	2,158	783
Faeces Cultures	2,227	713
Urine Cultures	50	36
Other examinations	110	31
Serological Tests	2,256	817
<i>Details of Isolations</i>		
<i>Salmonella</i>		
S. typhosa	34	3
S. paratyphi B	10	.....
S. barielly	2	.....
S. bredeney	1	2
S. muenchen	2	.....
S. newington	1	.....
S. newport	8	.....
S. oranienburg	2	.....
S. tennessee	1	.....
S. thompson	4	5
S. typhi-murium	56	14
S. urbana .....	.....	1
<i>Shigella</i>		
Shigella sonnei	31	26
Shigella flexneri 3	38	4
Shigella flexneri 6	2	.....
Shigella flexneri 4A	1	.....
Shigella flexneri Y	1	.....

TABLE III—CONTROL OF TUBERCULOSIS

<i>Examinations</i>	Edmonton		Calgary	
Microscopic	4,696		885	
(positive)	(216)		(16)	
Culture	2,860		756	
Animal inoculations	1,840		251	
<i>Specimens</i>	No.	Positive	No.	Positive
Pulmonary	3,752	284	598	10
Meningeal	78	23	15	.....
Renal	584	53	297	5
Other	299	31	153	1

TABLE IV—CONTROL OF SYPHILIS

<i>Bloods</i>	Edmonton	Calgary
Examinations—Presumptive Kahn	100,147	28,323
Standard Kahn	7,957	2,919
Quantitative Kahn	581	193
Wassermann (Kolmer)	8,672	3,092

Cerebro-spinal fluids

Examinations—Wassermann (Kolmer)	1,643	878
Blood and cerebro-spinal fluid "positive" to reaction	577	190
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	1,354	392
Pre-marital Bloods submitted according to Provincial Regulations	12,331	7,902
Positive to reaction	13	6

TABLE V—SANITARY CONTROL MILK AND CREAM

	Edmonton	Calgary
Milk and Ice-cream (no. of specimens)	1,695	1,514
Coliform test	981	1,314
Plate count	1,691	1,531
Phosphatase	237	507
Butter fat	224	217
Milk-bottles—rinse water	9	25

TABLE VI—SANITARY CONTROL WATER

	Edmonton	Calgary
Water (no. of specimens)	3,877	2,776
Coliform test—Presumptive	1,949	1,871
Confirmed	1,063	1,893
Special	861	116
Plate count	2,025	2,840
Waters found bacteriologically unsuitable	511	959

Report of Mr. C. E. Noble, Director of the Industrial Laboratories

I would give you the following report for the Department of Provincial Analyst and Industrial Laboratories for the year April 1, 1956 to March 31, 1957.

During the year 1956-57 the Department of the Provincial Analyst and Industrial Laboratories carried out 10,995 analyses and tests. This was a substantial increase over the previous year.

Included in the above total were many made for the Government Departments of the Attorney General, Agriculture, Alberta Liquor Control Board, Health, Highways, Lands and Mines and Forests, Provincial Secretary and Public Works. Control Analyses were made of the Alberta Liquor Control Board re beer, wine and liquors and the Breweries were inspected monthly.

Chemical examinations were made for the Provincial Coroner and for Pathologists of the Alberta Hospitals, and necessary court evidence given under Dominion and Provincial Acts and Regulations.

Exhibits from Police departments were examined and court evidence given as required.

The Veterinary Laboratory material continued to increase. Also the number of drugs encountered increased, and research in new methods of analysis was required.

The variety and types of commercial work completed become greater yearly as the Industry of Alberta increases. In this regard research problems are solved for Alberta Industries, and the number of this type of problems is greatly increasing, while routine analyses are being taken over by commercial and private laboratories.

Police work and material from oil companies continue to increase as the province grows in population. These increases and the continued increase in the number of new drugs and chemicals, require considerable research to find analytic methods, and in setting new standards for purity of materials.

Examinations and Analyses

Acid	3	Excreta	1
Alfalfa	1	Fat	2
Alloys	1	Feed (animal)	40
Aluminum	1	(poultry)	28
Ammonia	1	(concentrates)	1
Antifreeze	2	Fire Exhibits	15
Asbestos	11	Flour	1
Ash	5	Food (human)	20
Asphalt	2	Fossil	6
Barytes	7	Fruit	2
Bentonite	8	Fungii	3
Blood	366	Galena	2
Brain (for alcohol)	39	Gasoline	27
Bread	2	Glauber Salts	6
Breccia	12	Glass	11
Brine	18	Gold	3
Bug	1	Grain	32
Burton Salts	1	Gravel	8
Butter	1	Gypsum	1
Calcium Chloride	1	Hair	4
Calculii	16	Hay	1
Candy	7	Insects	5
Cement	9	Insecticides	13
Chlorine Compounds	6	Iron Ore	3
Clay	23	Iron	11
Cigarettes	2	Lead	7
Cleanser	4	Liquor (detailed for ALCB)	41
Cloth	23	(Malt for ALCB)	1103
Clothes	28	(Police)	106
Coal	7	(Miscellaneous)	1
Coffee	2	Liquid	4
Coin	2	Lime	5
Concrete	27	Limestone	23
Copper	1	Lithium	2
Cream	11	Lung	4
Carpet	3	Marl	43
Creolin	1	Mastic	3
Crystals	2	Meat	16
2-4-D	1	Medical Compounds	4
D-D-T	3	Medicine	22
Deposits	20	Metal	6
Detergent	1	Mica	2
Diaper	2	Milk	1
Disinfectant	1	Minerals	5
Dolomite	1	Miscellaneous	21
Dust	32	Mud	1
Egg	4	Mushrooms	2

Narcotics	1	Sodium Sulphate	1
Nail	4	Soils	42
Nuts	1	Soft Drinks	3
Oil (Crude)	2	Spices	2
(Lubricating)	8	Solutions	4
(Protective)	2	Steel	49
(Fuel)	7	Sterilizer	1
(Edible)	1	Stucco	3
Ore	578	Sugar	2
Paint	43	Tankage	9
Paint Remover	3	Tar	3
Paper	8	Tile	3
Penetrant	25	Twine	3
Pills	3	Urine	90
Plaster	13	Varsol	1
Poison Exhibits (misc.)	16	Vegetables	2
(Human)	420	Veterinary Specimens	1264
Police Exhibits (misc.)	81	Water (Sanitary)	2395
Powder	4	(Industrial)	55
Rock	248	Wheat	55
Rubber	3	Wood	6
Rugs	2	Wool	1
Rubbing Alcohol	3	Zinc	4
Sand	20	<i>Engineering Materials:</i>	
Sandstone	1	Concrete Cylinders	2691
Salt	12	Conductor Cable	3
Scale	3	Electrician Gloves	259
Sediment	4	Lightning Arresters	59
Serum	1	Meters	25
Shale	6	Rubber Blankets	2
Shoes	12	Signal Generator	2
Sludge	1	Transformer Oil	15
Soap	11	Wire Rope	4



REPORT
OF
THE GOVERNORS
OF THE
UNIVERSITY OF ALBERTA
1957-58

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To the Lieutenant-Governor in Council

SIR:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the Report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1958, and investments as they stood at the end of the fiscal year. Appended to this report is the report of the President of the University, in which the academic work of the University for the Year July 1, 1957 to June 30, 1958, is dealt with in detail.

C. M. MACLEOD, Chairman
A. STEWART, President

November 30, 1958

Financial Statements

Edmonton, Alberta, July 22, 1958

I have audited the books and records of the University of Alberta for the year ended March 31, 1958. The undernoted statements are submitted herewith:

Statement	Particulars
A	Balance Sheet
B	Statement of Operating Reserve
C	Statement of Revenue and Expenditure

Operating Results

Operations for the year ended March 31, 1958 resulted in a deficit of \$427,197.67 as compared with a surplus of \$412,617.77 for the previous fiscal year. Details of operations are shown in Statement C and accompanying schedules.

The deficit for the year has been carried to operating reserve. Transactions within the reserve are set forth in Statement B and resulted in a net accumulated deficit of \$36,558.21 which has been provided for by transfer from the reserve for federal aid funds unexpended.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:

Balance as at April 1, 1958\$ 14,693,182.37

Add:

Advances during the year:

Biological science wing, Agricultural bldg.	1,205,588.27
Provincial laboratory of public health	464,546.89
Administration building	240,680.99
Paving and landscaping	44,272.50
Arts building	29,367.03
Improvements, building and grounds	88,577.85
Equipment	213,379.86

\$ 16,979,595.76

Capital surplus:

Balance as at April 1, 1957\$ 2,583,197.39

Add:

Acquired from trusts and donated funds:

Equipment	3,061.44
Library	3,121.10

Provided for reserve funds:

Land exchange	26,000.00
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Income contributions:

Buildings	1,769.12
Equipment	65,818.65
Library	57,841.99

2,740,809.69

\$ 19,720,405.45

Subject to the foregoing remarks, I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1958, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the results of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.
Provincial Auditor.

UNIVERSITY OF ALBERTA
BALANCE SHEET AS AT MARCH 31, 1958

ASSETS

Buildings and equipment in service:			
Land, buildings and plant	\$	16,315,321.35	
Furnishings and equipment		3,321,581.11	
			\$ 19,636,902.46
Loan receivable:			
Students' Union re Students' Union building, see contra			227,777.33
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$195,000.00)			198,290.00
Current:			
Cash on hand and in transit	\$	49,746.17	
Accounts receivable:			
Sundry debtors	\$	141,628.40	
Less: Allowance for doubtful accounts		2,500.00	
	\$	139,128.40	
Government of the Province of Alberta		243,850.84	
			382,979.24
Accrued interest		4,604.16	
Merchandise held for resale		125,655.15	
			563,002.72
Prepaid expenses:			
Supplies on hand	\$	97,224.76	
Unexpired insurance		3,917.32	
Legal retainer fee		375.00	
Unemployment insurance stamps		681.12	
			102,198.20
Other assets:			
Livestock inventory	\$	28,614.50	
Deposits, Workmen's Compensation Board		8,564.00	
			37,178.50
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,345,300.00	
Provincial debentures, direct and guaranteed		1,051,000.00	
Municipal debentures		6,000.00	
Corporation debentures		8,400.00	
Corporation shares		23,977.49	
	\$	2,434,677.49	
Cash on hand and in bank		371,041.38	
Loans receivable		57,465.44	
Real estate, shares and sundry, nominal value		8.00	
Due from general account		159,519.05	
			3,022,711.36
			\$ 23,788,060.57

LIABILITIES

Capital and surplus:			
Capital provided by the Government of the Province of Alberta	\$	16,979,595.76	
Capital surplus		2,740,809.69	
			\$ 19,720,405.45
Loan payable:			
Government of the Province of Alberta re Students' Union building, see contra			227,777.33
Agreement for purchase of leasehold			2,848.56
Current:			
Bank and treasury branch overdrafts	\$	55,855.96	
Accounts payable		267,336.59	
Due to trust account		159,519.05	
			482,711.60
Deferred income:			
Fees	\$	11,519.18	
Other		1,361.85	
			12,881.03
Reserves:			
Federal aid funds unexpended	\$	187,149.93	
Provincial Laboratory of Public Health, operating		67,884.63	
University Athletic Board fees unexpended		31,325.96	
Library fees unexpended		21,772.27	
Workmen's Compensation Board		9,444.29	
Rink repairs		1,148.16	
			318,725.24
Trust:			
General endowment:			
Rockefeller Foundation	\$	500,000.00	
Scholarships:			
Escheated estates	\$	679,121.23	
General		434,874.36	
			1,113,995.59
Research		418,770.24	
Students' grants and loans		103,175.98	
General educational purposes		304,604.43	
Pensions		57,505.08	
Sundry:			
Administered by the University	\$	179,846.28	
Held on behalf of others		344,813.76	
			524,660.04
			\$ 23,788,060.57

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
FOR THE YEAR ENDED MARCH 31, 1958

Balance as at April 1, 1957		\$	466,563.65
Deduct:			
Deficit for the year ended March 31, 1958	\$	427,197.67	
Transfer to Provincial Laboratory of Public Health operating reserve: Excess of revenue over expendi- ture		2,857.80	
Provision for land exchange		8,066.39	
Transfers to trust accounts:			
Banff School administration building		50,000.00	
Conference of Learned Societies		15,000.00	
			<u>503,121.86</u>
Deficit as at March 31, 1958	\$	36,558.21	
Deduct:			
Transferred from federal aid funds unexpended			<u>36,558.21</u>
Balance as at March 31, 1958			<u>NIL</u> <u>=====</u>

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1958

REVENUE

Grants:	
Province of Alberta:	
General	\$ 2,225,000.00
Clinical research, University of Alberta Hospital, see contra	50,000.00
Debt charges, see contra	461,675.21
	\$ 2,736,675.21
Government of Canada:	
Federal aid	1,130,476.65
	\$ 3,867,151.86
Fees:	
Tuition	\$ 1,107,602.92
Examination and special, net	29,991.98
	\$ 1,137,594.90
Interest on Rockefeller foundation endowment	\$ 15,000.00
Deduct: Transferred to medical research trust	5,000.00
	10,000.00
Grants in aid	5,000.00
Library fees, see contra	46,116.75
University Athletic Board fees, see contra	22,191.87
Operating departments net revenue as per Schedule No. 2	34,311.94
	\$ 5,122,367.32

EXPENDITURE

Instructional salaries and direct expenses, net, as per Schedule No. 1		\$ 3,608,495.02
Maintenance of buildings		567,184.17
Debt charges, see contra		461,675.21
Library:		
Salaries and Expenses, Edmonton	\$ 153,560.64	
Salaries and Expenses, Calgary	12,185.43	
Provision for library accessions, see contra	46,116.75	
		211,862.82
Administration salaries and expenses, general		219,330.18
Maintenance of grounds		59,126.39
Grant to University of Alberta Hospital re clinical research, see contra		50,000.00
Other expenses:		
Student advisory services	\$ 32,561.17	
Provision for University Athletic Board expenses, see contra	22,191.87	
Calendars, scientific and other publications	21,199.91	
Pension arrears	19,200.24	
Travelling expenses, instructional staff	18,017.38	
Provost's office	12,911.11	
Alumni office	11,706.05	
Greenhouse salaries and expenses, general	8,075.45	
Electronics maintenance	2,683.57	
Exchange	548.91	
First year committee	249.96	
		149,345.62
Public service departments net expenditure, as per Schedule No. 3		156,726.93
Equipment purchased from income		65,818.65
		\$ 5,549,564.99
Deficit for the year ended March 31, 1958, carried to operating reserve		\$ 427,197.67

*To the Governors of the
University of Alberta*

Gentlemen:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1958.

A. STEWART,
President.

President's Report to Convocation

November 2, 1957

I shall confine my Report at this time to three matters: student numbers, the position of the Faculty of Graduate Studies, and the building program.

The increase in enrolments has exceeded our expectations, and is significantly greater than the growth recorded in previous years. Full-time undergraduate students enrolled in the 1957-58 session, in Edmonton and Calgary, number 4,426. This is an increase of 477 over 1956-57. The number in Edmonton is 3993, an increase of 409. Full time enrolments in Calgary are up 68, to a total of 433. The main increases have occurred in the faculties of Arts and Science (116), Engineering (141), and Education (166). The increase in Calgary results largely from the admission, for the first time, of a class of 59 first year engineering students. Total registration in the first year in all programs has now risen to 1,980, an increase of 257 over 1956-57.

The statistics I have given do not include all the students who are attending courses, for credit, in 1957-58. To the full-time undergraduate students must be added, first, the partial and special students who are taking less than a full year's intra-mural work. These students number 259. Second, students in the Faculty of Graduate Studies some of whom are also taking less than a full year's intra-mural work. The Graduate students number 214. Third, 648 students who are enrolled in the Evening Credit Program, and who are attending evening classes in Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer, Vegreville, Camrose and Holden. If we include the students in the first two groups the total is 4,899. If we include the students in the three categories we reach a total number of 5,583.

I can report also an attendance of 1,906 at the 1957 Summer Session, and growing support for the non-credit courses offered by the Department of Extension. The work of the University is expanding and will continue to expand in all directions.

For many years the graduate studies leading to the Masters degree were under the direction of a Committee of which the Dean of the Faculty of Arts and Science was Chairman. In 1938 a School of Graduate Studies was established. In 1952 Dr. O. J. Walker, Head of the Department of Chemistry assumed the added duties of the Director of the new school. The first Ph.D. was awarded in 1953. During the past year Dr. Walker retired, the School of Graduate Studies was elevated to the status of a Faculty, and Dr. A. G. McCalla was appointed Dean of the Faculty. Dr. McCalla retains his position as Dean of the Faculty of Agriculture, but is assisted in the duties of this office by the appointment of Dr. C. F. Bentley as Associate Dean of Agriculture. It is our expectation that, in two years time, Dean McCalla will give his individual attention to the Faculty of Graduate Studies. I have reviewed these steps because they describe an important phase in the development of this University, and reflect the significance we attach to the place of graduate studies in the future.

We would be unwise to allow the evident needs of science and technology

to detract us from the equally real needs in other areas of knowledge, and the acceptance of responsibility for a graduate program in Educational Administration and Supervision is a token of our concern for other areas; but, we hardly needed recent experience to alert us to the fact that this University, and indeed Canadian Universities in general, have fallen far behind in the march of scientific knowledge. The training needed by the research scientist cannot be encompassed in an undergraduate program; or even in the additional years required for a Masters degree. Canada must make her own contribution to scientific developments. This contribution is impossible without the aid of the Universities. Canadian Universities will have to strengthen their basic science departments and extend their graduate programs. This will not be easy to do at a time when pressure of undergraduate numbers is increasing, and staff are difficult to procure. But the need is obvious and urgent.

It is therefore gratifying that the Government of the Province has given us the assurance of support for a program of construction which will provide for expansion of the science departments. The wing to the Agriculture Building, which will house the departments of Botany, Zoology, Entomology, and Geology, will be ready for occupancy next summer. An extension to the Medical Building, which will accommodate the Schools of Nursing and Physiotherapy now in temporary space, and which will provide for expansion in the pre-clinical departments in the Faculty of Medicine, in Pharmacy and in Dentistry, will be commenced as soon as detailed plans are completed. We are now in a position to proceed with the plans for a large building for Mathematics, Physics and Chemistry. The facilities of this building will not only enable us to meet the needs of the increased numbers of undergraduate students whose programs require instruction in Mathematics, Physics and Chemistry; they will make it possible to build up the strength of the basic science departments, to attract to them graduate students and highly qualified staff.

Two other developments are now underway. Plans have been approved for the Physical Education Building, and an early start on construction may be expected in the spring. The commitment to start the development of the new campus in Calgary in 1958 will be met. Work is proceeding on planning of the layout of the campus, and attention is being given to the space needs of an enrolment of 1,000 students.

The approval by the Cabinet of the essential instructional building, and of the Physical Education building to mark the 50th Anniversary of the University, is most encouraging.

President's Report to Convocation

May 16, 1958

This is the first function of 1958 at which we call attention to the Golden Jubilee of the University of Alberta. The main activities to celebrate our 50th Anniversary will take place during the week Sunday, October 26th, to Saturday, November 1st.

Between now and November 1st the University will hold four Convocations. This, the regular Spring Convocation, is related to the Jubilee Celebrations by the conferring of honorary degrees on three distinguished graduates of this University, who will shortly be presented to the Chancellor. In September the University will receive a visit from 36 representatives of Commonwealth Universities who are coming here following the meeting of the Congress of the Association of Universities of the British Commonwealth in Montreal. Honorary degrees will be conferred on three of the distinguished visitors. On October 27th, a special Jubilee Convocation will be held, at which the University will receive greetings from sister Universities, and a number of degrees will be conferred. The regular Convocation for the conferring of degrees in course is on November first. The University will mark both its Jubilee, and the commencement of developments of the New Campus in Calgary by holding the Fall Convocation in the southern city.

Further to mark the completion of 50 years, the University has accepted from Dr. W. H. Alexander, the first appointee to the staff of the University of Alberta, formerly Professor of Classics and Dean of the Faculty of Arts and Science, the manuscript of his work "The Book of Catullus of Verona" done into English verse. A handbound volume is on display in the Rutherford Library, and 225 microfilm copies have been distributed to Universities in Canada, other countries of the Commonwealth, and the United States. Copies are now available of a short history of the University, "University of Alberta, 1908 - 1958" written by Dr. John Macdonald, Professor Emeritus of Philosophy and formerly Dean of the Faculty of Arts and Science. The University is also publishing the story of Mr. Reg Lister, Superintendent of Residence and an honorary member of Convocation. This story is written by Mr. Lister and is entitled "My 45 years on the Campus".

The University is pleased, in its Jubilee Year, to be host to the Conference of Learned Societies. During the period May 28th to June 16th, 23 Societies, including the Royal Society of Canada and the National Conference of Canadian Universities will hold their annual meetings on the Campus. This will be the first occasion on which the Learned Societies have met in this Province.

In the period October 27th to November 1st, a number of other functions of which fuller public announcement will be made in due course, will be held. These will include the official opening of the new wing to the Biological Science Building, which will be opened for classes in September; the laying of the corner stone of the new Physical Education Building, which is the Jubilee gift of the Government of the Province to the University; and

appropriate ceremonies to mark the provision of new facilities for the Physical Science Departments, and the beginning of construction on the new Campus in Calgary.

These activities will call attention to the completion of one stage in the growth of the University of Alberta, and the commencement of another in which conditions will be significantly different. The year 1958 is not merely a noteworthy point in time; it is a year of transition. In its fifty years, the University has experienced short periods of rapid expansion particularly immediately following the two world wars; but the average rate of growth in student numbers has been less than 100 per year. Along with other Universities in Canada, we are now entering a period of sustained and much more rapid expansion; and, along with other Canadian Universities, we are endeavouring to lay a sound foundation appropriate to our particular circumstances.

Although no reference was made to the national aspect of the problem in the Speech from the Throne, the National Conference of Canadian Universities has, in interviews with the Prime Minister, been given assurances of the concern of the Government of Canada that the Universities should receive sufficient support to enable them to perform their essential functions and to meet the growing needs of the country. Support must be forthcoming both to provide physical facilities, and to meet proper standards of operation. I am pleased to report that in its budget for 1958-59, the Government of the Province has met in full the requests of the Board of Governors for new buildings, and has contributed a substantially increased grant for current operations. Approval has been given to the construction of the Physical Education Building, the Physics-Chemistry-Mathematics Building, a substantial addition to the Medical Science Building, and to the necessary alterations to existing instructional buildings on the Edmonton Campus. Funds have been voted to construct permanent facilities for the expanding University of Alberta in Calgary, which will provide, at the first stage, for a full-time student body of 1,000, and will make it possible to offer in Calgary, all courses leading to certain degrees.

In this Province the University has felt it appropriate to commit itself to a program of controlled decentralization. This policy is being put into effect in current plans for expansion of the University in Calgary; and it is gratifying to be able to report that the new Community Junior College in Lethbridge seems to be well-established. Our relations with the Lethbridge Junior College have been completely harmonious, and the College has already demonstrated its capacity to serve the needs of its Community and to meet all the standards required by the University for those students proceeding to degrees.

Study of the problem of admission requirements for students continues in all parts of Canada. The Atkinson Study in Ontario and the Alberta study are proceeding, and through the interest of the Carnegie Corporation a similar study of student progress through school and University is now underway in the Atlantic Provinces. The University of Alberta welcomed the Provincial Royal Commission on Education, and several briefs have been prepared and submitted to the Commission by Faculties of the University. Most Canadian Universities have found it necessary to raise tuition fees for 1958-59. The increase is not more than is necessary to maintain the proportion of operating costs covered by student fees. But, if financial ability is not to become a principal determinant of admission to University, it will be necessary to increase the funds available for student assistance in the form of scholarships, bursaries and loans.

Last year I referred to the creation of the Faculty of Graduate Studies. I am pleased to report that progress is being made in this area of the University's activities. All Canadian Universities are becoming concerned about their program of graduate studies. The primary reason is that the Graduate Schools are essential to the survival of the Universities themselves. The Universities draw their staff from Graduate Schools; but the out-turn from Canadian Schools of Graduate Studies is, in all fields, insufficient to meet the needs of the Universities alone; and in some fields the discrepancy is appallingly wide. In this University we are still parasitic upon other institutions. However, we are making progress. The policy of offering graduate teaching and research fellowships in more substantial amounts is attracting graduate students to the Department, and with the expansion of facilities, this University will in time place itself in the respectable position of being self-supporting—by this I mean that the contribution of the University in terms of the number of graduates with advanced degrees will equal the demands we make on other institutions. This should be our immediate goal.

I have selected for comment only two problems which are receiving our continuous attention—the problem of admission of undergraduate students and the problem of expansion of graduate studies. It is interesting that these two problems have been selected for discussion at the annual meeting of the National Conference of Canadian Universities to be held here in June. Our problems are in no way peculiar; and I believe we have as much progress toward their solution as has been achieved in any other part of Canada.

Eminent Chancellor, this Convocation brings with it only one regret. In June 1952 you were elected by the graduates of this University as its Chancellor, and you have now completed the term of six years prescribed in the University Act. It is our great regret that this is the last Convocation at which you will preside. However, we do not wish to dwell on this. Rather, we wish to thank you for the indelible contribution you have made through your distinguished and unselfishly generous service to this University. During your term as Chancellor you have admitted to Convocation some 3,000 students. None of them will forget your part in their graduation, or the words of wisdom you have spoken to them. As Chairman of the Senate, as a member of the Board of Governors, and on the numerous occasions on which, in other ways, you have represented the University, you have unsparingly used your great talents to preserve and strengthen the reputation of this University, and to advance its welfare. These few and inadequate words must serve to express to you, and to Mrs. Scarlett, our very grateful thanks.

Table I—Academic Staff Numbers (September, 1957)

Administrative Officers

President	1
Vice-President	1
Assistant to the President	1
Deans of Faculties	9
Directors of Schools	5
Director of Calgary Branch	1
Assistant Director of the Calgary Branch	1
Director of the Summer Session	1
Provost	1
Assistant Provost, Calgary Branch	1
Director of Student Advisory Services	1

Assistants to the Director of Student Advisory Services	2	
Dean of Women	1	
Librarian	1	
Superintendent of the University Hospital	1	
Registrar	1	
Associate Registrar	1	
Assistant to the Registrar	1	
Alumni Secretary	1	
Bursar	1	
Accountant	1	
Assistant Accountant	1	
Purchasing Agent	1	
Personnel Officer	1	
Wardens of Residence Halls	3	
		40
<i>Full-Time Teaching Staff</i>		
Professors	62	
Associate Professors	95	
Assistant Professors	82	
Lecturers	20	
Instructors	5	
		264
<i>On Leave of Absence</i>		
Professors	4	
Associate Professors	4	
Assistant Professors	nil	
Lecturers	nil	
		8
<i>Part-Time Teaching Staff</i>		
Professors	9	
Associate Professors	7	
Clinical Professors	13	
Assistant Professors	8	
Associate Clinical Professors	1	
Assistant Clinical Professors	21	
Lecturers	52	
Instructors	89	
Demonstrators in the Faculty of Education	190	
Demonstrators and student assistants	160	
		550
<i>Department of Extension</i>		
Director	1	
Assistants	2	
Agriculture Secretary	1	
Librarian	1	
		5
<i>Library</i>		
Librarian	1	
Assistant Librarian		
Assistants	15	
		16

Industrial Laboratories

Director and Provincial Analyst	1	
Assistants	2	
		3

Provincial Laboratory of Public Health

Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	
Provincial Pathologist	1	
Assistants	4	
		7

Other Staff

Dietitians	3	
Radio Secretary	1	
		4

Total	889
Less Duplicates	36

Total Academic Staff	853
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Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

- Jan Weijer, M.Sc., Ph.D., Professor of Horticulture.
 Darrell Luvane Lynch, M.S., Ph.D., Assistant Professor of Soil Science.
 John Edleston Bowstead, M.Sc., Ph.D., from Associate Professor to Professor of Animal Husbandry.
 John Alfred Toogood, B.Sc., Ph.D., from Associate Professor to Professor of Soil Science.
 Fenton Vincent MacHardy, B.E., M.S., from Associate Professor to Professor of Agricultural Engineering

Faculty of Arts and Science

- Cyril E. Challice, B.Sc., Ph.D., A.R.C.S., F.I.C., Assistant Professor of Physics, Calgary.
 Joseph Lipson, B.S., Ph.D., Assistant Professor of Physics.
 Frank Robert Anton, B.Sc., M.A., Assistant Professor of Economics, Calgary.
 Harvey Allan Buckmaster, B.Sc., M.A., Ph.D., Assistant Professor of Physics.
 Hugh Brian Dunford, M.Sc., Ph.D., Assistant Professor of Chemistry, Calgary.
 Eoin Laird Whitney, B.Sc., A.M., Ph.D., Assistant Professor of Mathematics.
 Leon James Logie, M.A., B.Ed., from Lecturer to Assistant Professor of English, Calgary.
 Alban Dewes Winspear, B.A., M.A., Special Lecturer in Classics and Philosophy.
 Arnold Oscar Saffel, B.Com., M.B.A., C.A., Assistant Professor of Accounting.
 Harold Johnston Brodie, M.Sc. Ph.D., Professor of Botany.
 Maria Sporleder, B.A., Sessional Lecturer in Modern Languages.
 Harry Emmet Gunning, M.A., Ph.D., Professor of Chemistry.
 I. N. Baker, M.Sc., Assistant Professor of Mathematics.
 Shanti S. Gupta, M.A., Ph.D., Assistant Professor of Mathematics.
 Henry Francis Joseph Lowig, D.Rer.Nat., D.Sc., Associate Professor of Mathematics.
 Esther Milner, B.A., M.A., Ph.D., Assistant Professor of Psychology.

John Mercel Robson, M.A., Ph.D., Assistant Professor of English.
 Elias Wolf Mandel, M.A., Ph.D., Assistant Professor of English.
 George Charles Cree, M.A., Ph.D., Assistant Professor of Mathematics.
 Robert Neville O'Brien, M.Sc., Ph.D., Assistant Professor of Chemistry.
 Robert Common, B.A., Ph.D., Assistant Professor of Geography.
 James Alexander Sherbaniuk, B.A., B.Com., M.A., Sessional Lecturer in Economics.
 Douglas Elstow Smith, M.A., Ph.D., Dean of the Faculty of Arts and Science.
 Kenneth Bateman Newbound, M.S., Ph.D., from Associate Professor to Professor of Physics.
 Matthew Harry Scargill, B.A., Ph.D., from Associate Professor to Professor of English.
 James Edward Moore, M.A., Ph.D., from Associate Professor to Professor of Zoology.
 James Howden Whyte, B.Sc., M.Sc., Ph.D., from Associate Professor to Professor of Botany.
 Lewis Gwynne Thomas, M.A., Ph.D., from Associate Professor to Professor of History.
 Robert George Baldwin, B.A., M.A., Ph.D., from Assistant to Associate Professor of English.
 Robert Lewis James, M.A., Ph.D., from Assistant to Associate Professor of Sociology.
 Lorene Louise Kennedy, M.Sc., Ph.D. from Assistant to Associate Professor of Botany.
 Sammuel James Nelson, M.A.Sc., Ph.D., from Assistant to Associate Professor of Geology.
 John Benjamin Taylor, A.O.C.A., from Assistant to Associate Professor of Art.
 William John Wallace, B.A., Ph.D., from Assistant to Associate Professor of Chemistry.
 Gordon Bruce Peacock, B. Ed., M.A., from Assistant to Associate Professor of Drama.
 Harry Wohlfarth, from Lecturer to Extension Assistant Professor of Art.
 Gordon Kay Greene, B.A., from Lecturer to Extension Assistant Professor of Music.
 Edward Norman Yates, A.O.C.A., from Lecturer to Assistant Professor of Art.
 George Owen Mackie, M.A., D.Phil., from Lecturer to Assistant Professor of Zoology.
 Ian Charles Sowton, M. A., froh Lecturer to Assistant Professor of English.

School of Commerce

William A. Preshing, B.Ed., B.A., M.B.A., Lecturer in Business Adminstrta-tion.
 Winfield S. Carrick, B.A., Lecturer in Business Administration.

Faculty of Education

John Hobart McLean Andrews, M.A., Associate Professor of Educational Administration.
 Alan Arthur Smith, M.Mus., Assistant Professor of Music, Calgary.
 Donald Burrows Black, M.Ed., Ed.D., Associate Professor of Educational Psychology.
 Jean Downie Dey, B.Ed., Assistant Professor of Education.

A. E. D. Schonfield, M.A., Assistant Professor of Educational Psychology, Calgary.

Herbert Edgar Smith, Sessional Lecturer in Education.

Hugh Alton MacGregor, B.Sc., M.Sc., Ed.D., from Associate Professor to Professor of Education.

Stanley Charles Tremayne Clarke, M.A., M.Ed., Ed.D., from Associate Professor to Professor of Educational Psychology.

John Allison Forbes, M.Ed., from Assistant to Associate Professor of Education (Art).

Cyril Hampson, B.A., from Assistant to Associate Professor of Education.

Joyce Elaine Wade, from Lecturer to Assistant Professor of Education (Art and Music).

Faculty of Engineering

Jan Leja, A.R.S.M., B.Sc., Dip.Ing., Ph.D., Assistant Professor of Metallurgy.

Walter Lionel Bigg, B.Sc., Assistant Professor of Drawing.

Sidney Herbert Simmonds, B.Sc., M.Sc., Assistant Professor of Applied Mechanics.

Ivo John Dalla Lana, M.Sc., Assistant Professor of Chemical Engineering.

Walter Harvey Stillwell, B. A., M.A., D.L.S., Assistant Professor of Civil Engineering, Calgary

John Duby, B.Sc., M.A., D.Phil., from Lecturer to Associate Professor of Applied Mechanics.

Donald Louis Flock, M.S., Ph.D., Assistant Professor of Petroleum Engineering.

Eric Wm. Johnson, B.Sc., A.M.I. Mech. E., Assistant Professor of Mechanical Engineering.

Thomas Patching, B.Sc., from Associate Professor to Professor of Mining.

Donald Baker Robinson, M.A.Sc., Ph.D., from Associate Professor to Professor of Chemical Engineering.

James Gordon Parr, B.Sc., Ph.D., from Associate Professor to Professor of Metallurgy.

Siegfried Michael Breuning, Dip.Ing., Sc.D., from Assistant to Associate Professor of Civil Engineering.

Faculty of Medicine

Ernest Thackeray Pritchard, M.Sc., Assistant Professor of Biochemistry.

Geoffrey Mitchell, Sessional Lecturer in Biochemistry.

William C. Taylor, M.B., Ch.B., D.C.H., Assistant Professor of Paediatrics.

Robert Cameron Harrison, M.D., M.S., F.R.C.S.(C), Associate Professor of Surgery.

Robert Alexander Macbeth, B.A., M.D., M.Sc., F.R.C.S.(C), Associate Professor of Surgery.

James Alan Longmore Gilbert, M.B., Ch.B., M.D., F.R.C.P., M.R.C.P., F.R.C.P.(C), Associate Professor of Medicine.

Benjamin Morill Wheeler, M.B.E., M.D., F.R.C.P.(C), from Lecturer to Assistant Clinical Professor of Medicine.

Matthew Matas, M.D., from Instructor to Lecturer in Medicine.

Stanley Greenhill, M.D., D.P.H., from Instructor to Lecturer in Medicine.

Edward Garland Kidd, B.Sc., M.D., from Instructor to Lecturer in Medicine.

Ronald Hilborn Horner, M.D., F.A.C.S., M.R.C.O.G., from Assistant Clinical Professor to Clinical Professor of Obstetrics and Gynaecology.

Margaret MacSteven Hutton, B.A., M.D., F.R.C.S.(C), F.A.C.S., from Lecturer to Assistant Clinical Professor of Obstetrics and Gynaecology.
 Thomas R. Nelson, M.B., Ch.B., F.R.C.S.(C), from Sessional Instructor to Sessional Lecturer in Obstetrics and Gynaecology.
 Morris Weinlos, B.A., M.D., F.R.C.S., F.R.C.S.(C), from Lecturer to Assistant Professor of Pathology.
 Mitro Michael Sereda, M.D., from Instructor to Lecturer in Pathology.
 Thomas Alfred Gander, M.B.E., M.D., from Lecturer to Assistant Clinical Professor of Paediatrics.
 Olav Rostrup, M.D., F.A.C.S., F.R.C.S. (C), F.A.A.O.S., from Associate Clinical Professor to Clinical Professor of Orthopaedic Surgery.
 George Leslie Willox, M.D., F.R.C.S.(C), F.A.C.S., from Assistant Professor to Clinical Professor of Surgery.
 Bohdan Michalyshyn, M.D., F.R.C.S.(C), from Assistant Clinical Professor to Clinical Professor of Surgery.
 Neil Fraser Duncan, B.Sc., M.D., from Instructor to Lecturer in Paediatrics.
 Charles Norman Gillis, B.Sc., Assistant Professor of Pharmacology.
 Keith A. Yonge, M.D., C.M., D.P.M., Professor of Psychiatry.
 Sheila Ruth Toshach, B.Sc., M.A., Assistant Professor of Bacteriology.
 Walter Raymond Salt, M.Sc., from Associate Professor to Professor of Anatomy.
 Charles Heath, M.Sc., Ph.D., from Assistant to Associate Professor of Physiology.

School of Nursing

Ruth Elizabeth McClure, B.Sc., M.P.H., R.N., Associate Professor and Director of the School of Nursing.
 Marion Patricia McMillan, B.Sc., M.A., R.N., Assistant Professor of Nursing.
 Margaret Murray Campbell, B.A.Sc., M.P.H., R.N., Assistant Professor of Nursing
 Marion Marguerite Jenner, R.N., C.M.B., Sessional Lecturer in Nursing.
 Marguerite E. Schumacher, B.S., M.A., R.N., Adviser to Schools of Nursing in Alberta.

School of Physical Education

William Donald Smith, B.P.H.E., M.A., Ed.D., from Associate Professor to Professor of Physical Education.

School of Physiotherapy

Alexander Gordon Faulds, M.C.S.P., Lecturer in Physiotherapy.

Library

Phyllis Russell, B.A., B.L.S., Assistant Medical Librarian.
 Dorothy Edith Ryder, B.A., B.L.S., Librarian, Calgary.
 Maria Latimer English, B.A., M.L.S., Education Librarian.
 Donald Alexander Baird, B.A., M.S., Chief Cataloguer.
 Loretta Millar, B.A., B.L.S., Assistant Circulation Librarian.

Administration

Murray Stewart Cooke, B.S.A., Personnel Officer.
 Walter Hugh Johns, B.A., Ph.D., Vice-President of the University.

Student Advisory Services

Donald C. Fair, B.Ed., Counsellor.

Extension

George Thomas Potter, Senior Extension Assistant.

Allan Des Champs, B.Sc., Agricultural Secretary.

Banff School of Fine Arts

John Haar, B.A., Assistant Director.

Table III—Leave of Absence

Arthur James Anderson, B.Sc., M.S., Associate Professor of Pharmacy.

Harold Stewart Baker, B.A., M.A., Ph.D., L.A.B., Professor of Secondary Education.

John Unrau, B.S.A., M.Sc., Ph.D., Professor of Plant Science.

Walter Edgar Harris, M.Sc., Ph.D., Associate Professor of Chemistry.

Irwin Guttman, B.Sc., M.A., Ph.D., Assistant Professor of Mathematics.

Blanche Giffen, M.A., B.Sc. in L.S., Medical Librarian.

Heinz Helfenstein, M.Sc., Ph.D., Assistant Professor of Mathematics.

Walter Worth, B.Ed., M.Ed., Assistant Professor of Education.

Robert Valentine Blackmore, D.D.S., Assistant Professor of Operative Dentistry.

Alan Brock McCarten, M.D., F.R.C.S., Assistant Clinical Professor of Surgery.

Alexander Carmichael Traill, M.B., Ch.B., Instructor in Psychiatry.

Stanley Norris, B.Ed., M.A., Assistant Professor of Education, Calgary.

Table IV—Retirements

Ross William Collins, M.A., B.D., Ph.D., F.R.Hist.S., Professor of History.

Ezra Henry Moss, M.M., M.A., Ph.D., F.R.S.C., Professor of Botany.

Osman James Walker, B.A., A.M., Ph.D., F.C.I.C., F.R.S.C., Professor of Chemistry.

Table V—Resignations

Isabelle MacLean Reesor, B.Sc., M.A., R.N., Assistant Professor of Nursing.

Albert Harold Lightstone, B.Sc., M.A., Lecturer in Mathematics.

Robert Henry Blaquiére, D.D.S., Assistant Professor of Pedodontics.

Boris Gardave, B.M.E., M.B.A., Assistant Professor of Business Administration.

Donald Saunders Gilmour, D.D.S., Lecturer in Operative Dentistry.

Henry Arthur Grimsrud, D.D.S., Lecturer in Operative Dentistry.

John Winstanley Bilsland, M.A., Assistant Professor of English.

Ralph Norman McManus, M.Sc., Ph.D., Associate Professor of Civil Engineering.

Eunice Robertson Hanna, B.Ed., M.A., Lecturer in English, Calgary.

Maurice John Boote, B.A., Assistant Professor of Economics.

Anthony John Michael Griffiths, M.R.C.S., L.R.C.P., D.M.R.D., R.C.P.&S., Instructor in Radiology.

Mary Isabel Grant, B.Sc., in Ed., B.L.S., Librarian, Calgary.

John William Gregg, M.S., Associate Professor of Petroleum Engineering.

Max Edwin Geissinger, M.D., F.R.C.S.(C), F.A.C.S., Lecturer in Clinical Surgery.

Caroline Blair Hicks, B.A., B.L.S., Chief Cataloguer, Library.

Rachel Sheela Tasker, M.T.D., R.N., S.C.M., Instructor in Nursing.

Ben Aksel Lindberg, B.M.E., M.E., Professor and Director of the School of Commerce.

Glen Marvin Martin, M.D., C.M., Sessional Instructor in Pathology.

John Haar, B.A., Assistant Director, Banff School of Fine Arts.

Sylvan Hillerud, B.S.A., Assistant Professor of Extension.

Tatsuo Yamamoto, M.Sc., Lecturer in Bacteriology.

Table VI—Gifts

From Taylor, Pearson and Carson (Canada) Limited, \$500.

From MacCosham Storage and Distributing Company, \$500.

From the John and Mary R. Markle Foundation, \$6,000 for the Markle Scholar in Medical Science.

From the Department of Labour, \$1,000 for research under the direction of F. R. Anton.

From Harrisons & Crosfield (Canada) Limited, \$500 and from the Sherrit Gordon Mines Limited, \$1,700, grants-in-aid of nitrogen fertilizer research.

From Brewing and Malting Barley Research Institute, \$4,000 in support of barley breeding and research project.

From Schulberger of Canada, \$500 grant-in-aid.

From the Consolidated Mining and Smelting Company of Canada Limited, \$4,000 grant for research under the direction of Dr. J. G. Parr.

From the University of Alberta Law Alumni, portraits of Dr. G. H. Steer, Dr. L. Y. Cairns and Dr. M. M. McIntyre, and \$1,036.68 to be used for prizes or bursaries for law students.

From Dr. G. A. Gaherty, \$1,500 to the Banff School of Fine Arts; \$7,500 for student assistance.

From the Department of Mines and Technical Surveys, an arc furnace to the Department of Mining and Metallurgy.

From the Department of Agriculture, Province of Alberta. \$15,000 annual grant for Soil and Feed Testing.

From the Harvie Foundation, \$3,000 grant to the Department of Plant Science.

From the Ellison Milling and Elevator Company Ltd., \$1,670 grant to the Department of Plant Science.

From the Consolidated Mining and Smelting Company of Canada Limited, \$500 grant-in-aid.

From the Alberta Wheat Pool, \$500 grant to the Department of Plant Science; \$400 grant to the Department of Soil Science.

From the Aluminum Fiduciaries Limited, \$900 grant for a first year dental student.

From the Ciba Company of Canada, \$100 to the Faculty of Medicine.

From Canadian Industries Limited, a \$1,500 fellowship to be awarded to Mr. E. Milton who is proceeding to his Master's degree in Chemistry.

From the American Society of Metals, \$400 to be awarded to a student in third year Metallurgical Engineering.

From the International Nickel Company, \$100,000 to be awarded over a period of five years as teaching fellowships.

From the Proctor and Gamble Company of Canada Limited, \$2,100 for the Proctor and Gamble Student Bursary Fund.

From the Dupont Company of Canada Ltd., \$500 grant-in-aid.

From G. D. Searle and Company, \$6,250 in aid of experimental investigations in the Department of Experimental Surgery.

From Professors E. N. Adams, P. Morrison, J. Schwinger and E. P. Wigner, \$22 to the Rutherford Library to be used for the purchase of a subscription to ADVANCES IN PHYSICS.

From Bailey Selburn Oil and Gas Co., \$100.

From California Standard Company, \$150.

From Mobil Oil of Canada Ltd., \$275.

From the French Petroleum Company of Canada Ltd., \$100.

From McCullough Tool Company, \$50.
 From Dome Exploration (Western) Ltd., \$100.
 From Great Plains Development Company of Canada Ltd., \$75.
 From Canadian Seaboard Oil Co., \$125.
 From Canadian Fina Oil Ltd., \$250.
 From New Superior Oils of Canada Ltd., \$100.
 From Canadian Westedn Gas and Northwestern Utilities Ltd., \$150.
 From Baroid of Canada Ltd., \$100.
 From Eastman Oil Well Survey Co. Ltd., \$50.
 From Goliad Corporation, \$200.
 From Hudson's Bay Oil and Gas Co. Ltd., \$350.
 From Pacific Petroleums Ltd., \$100.
 From Texaco Exploration Co., \$250.
 From Union Oil Co., of California, \$250.
 From Shell Oil Company of Canada Ltd., \$500 grant-in-aid.
 From International Nickel Company of Canada Ltd., \$1,500 grant-in-aid.
 From General Motors of Canada Ltd., \$1,500 grant-in-aid.
 From the Edmonton Civic Welfare Fund, \$2,000 grant to the Department of Physiology.
 From Gallowhur Chemicals Canada Ltd., \$1,000 grant for research in the Department of Plant Science.
 From the Federal Department of Mines and Technical Surveys, \$4,200 grant for research under direction of Dr. R. E. Folinsbee, \$1,000 grant for research under direction of Dr. G. D. Garland.
 From Robin Hood Flour Mills Limited, \$2,840 grant to the Department of Plant Science.
 From Maple Leaf Milling Company, \$2,880 grant to the Department of Plant Science.
 From the French Embassy, a "bloc pedagogique" to the French Departments in Calgary and Edmonton.
 From the Consolidated Mining and Smelting Company of Canada limited, \$2,000 grant for research on fertilizer and nutrition work.
 From the McCullough Tool Company, \$2,000 for the McCullough Tool Awards, 1957.
 From the Merrill Muttart Foundation, \$6,000 for the Chair in Medical Research.
 From the Triad Oil Company, \$250.
 From the Calgary Dental Society, \$200 to the post-graduate fund.
 From the Ciba Company Limited, \$1,000 grant for research project under the direction of Dr. R. S. Fraser.
 From the Great Western Garment Co. Ltd., \$100.
 From the Interprovincial Cooperatives Limited, \$750 grant to the Department of Soil Science.
 From Dr. Baden Powell, \$50 to the Dental Post-Graduate Scholarship fund.
 From the Honolulu Oil Corporation, \$125.
 From the Canadian Oil Companies Ltd., \$50.
 From the Sun Oil Company, \$200.
 From Mrs. Irene Gonsett, \$500 for the Gonsett library collection.
 From the Pan American Petroleum Corporation, \$25.
 From Royalite Oil Co. Ltd.
 From Western Leaseholds Limited, \$25.
 From the Shell Oil Company of Canada Limited, \$100.

From the Canadian Cancer Society, Alberta Division, \$1,000 grant to the McEachern Laboratory; \$1,350 grant to Dr. B. Margolus.

From Calgary Power Limited, \$100.

From the College of Physicians and Surgeons, \$600 grant to the Medical Library.

From the Carnegie Corporation of New York, 350 books portraying contemporary American life.

From Mr. W. Gill, \$30.

From L'Association Canadienne des Educateurs de Langue Française, books.

From United Grain Growers Limited, \$5,000 grant to the Faculty of Agriculture for research project—Pelleted Feeds.

From the International Nickel Company of Canada Ltd., \$4,500 grant to the Department of Mining and Metallurgy.

From B.A. Oil Co. Ltd., \$150.

From Dr. S. D. Fraser, \$125 to the 1958 Graduating Class in Dentistry Fund.

From Home Oil Co., \$100.

From Texaco Exploration Co., \$50.

From the City of Edmonton, \$150.

From Northwestern Utilities Ltd., \$250.

From McColl Frontenac Oil Co. Ltd., \$150.

From Geigy (Canada) Ltd., \$1,000 grant for research under the direction of Dr. C. W. Nash.

From Calgary Power Limited, a subscription to the International Conference on Large Electric Systems.

From Western Canada Ropes Ltd., \$100.

From Radiation Commission, International Association of Meteorology and Atmospheric Physics, \$600 grant for ultraviolet radiation research under the direction of Dr. E. H. Gowan.

From Eldorado Mining and Refining Limited, \$24,150 grant for research on uranium ores under the direction of Prof. Lilge.

From the Hudson's Bay Company, \$150.

From Canadian Industries Limited, \$800 supplement to the Company's fellowship.

From the Life Underwriters Association of Canada, \$59.

From Harrisons & Crosfield (Canada) Ltd., and from Northwest Nitro-Chemicals Limited, \$500 per annum each, for three years, being a grant-in-aid in support research and experimental work by the Department of Soil Science.

From the Nutrition Foundation Inc., \$5,000 per annum for two years, grant in support of a research project under the direction of Dr. E. T. Pritchard.

From the Alberta Hotel Association, a Students' Assistance Fund in the amount of \$1,500.

To the Banff School of Fine Arts Scholarship fund, \$10,514.42.

From Imperial Oil Limited, \$10,900.

From the National Research Council of Canada, \$189,787.

From the Department of National Defence, \$21,600.

From the Federal Department of Agriculture, \$27,700.

From the National Cancer Institute of Canada, \$20,131.13.

Table VII—New Scholarships and Prizes

From the Canadian Association of Geographers, a book prize to the graduating student who has specialized in Geography and who has demonstrated the greatest proficiency in this subject.

From the American Marietta Company, a \$250 scholarship to a student entering first year Chemistry, Chemical Engineering or the Secondary B.Ed. route.

Three Canadian Good Roads Association Scholarships of \$2,000 each provided by Westeel Products Limited, Union Tractor Limited, and Standard Gravel & Surfacing of Canada Limited.

The William Rea Scholarship in Television of \$1,000 to graduating students or graduates preparing for a career in television in drama, music, writing, photography, engineering or business.

The Engineering Prize for Calgary students of \$50 offered by the Engineers Wives Club of Calgary to a student entering first year Engineering at the University of Alberta in Calgary.

The Pfizer Research Scholarship of \$300 to a student of outstanding merit undertaking graduate work in Pharmacy.

The British America Paint Company Scholarship in Engineering of \$500 to a student of outstanding merit entering second year of the Faculty of Engineering.

The Sunwapta Broadcasting Company Scholarship of \$200 to an outstanding student interested in the field of communications who is entering the fourth year of Engineering Physics (Electronics Pattern), Electrical Engineering, Honors Physics or a student in the third or fourth year of a B.A. pattern who is interested in journalism or in broadcast script writing.

The Graduates' Prize in Russian I of \$100 offered by a group of graduates to the student of Russian I in 1958-59 who has the highest standing.

The John Alexander McDougall Memorial Scholarship in Civil Engineering of \$500 to a student of outstanding merit entering the fourth year of Civil Engineering.

The Edmonton Women's Branch of the Canadian Association of Health, Physical Education and Recreation Prize of \$25 for the purchase of textbooks to a woman student of outstanding merit completing first year Bachelor of Physical Education program.

The Hon. W. C. Woodward Memorial Scholarship of \$500 per year, offered in competition to sons, daughters and legal dependents of full-time employees, of retired employees, and of employees who died while in the service of Woodward Stores (Edmonton) Limited.

The Junior Hospital League Bursary for Post-Graduate Study in Social Work of up to \$1,000 to a graduate of any recognized university to assist in training at an accredited School of Social Work.

The Cominco Undergraduate Scholarships, being two four-year awards of \$1,400 payable at \$350 per annum and four one-year awards of \$250 to matriculants who are sons, daughters or wards of Cominco employees, widows whose husbands died while regularly employed, or Cominco pensioners or widows.

The Hudson's Bay Company Merchandizing Awards in Arts and Science, being two of \$100 each offered to students completing the second year of a program for the general degree in Arts and Science who are interested and suited for a career in merchandizing.

The James A. Lewis Engineering Scholarship in Petroleum Engineering of \$500 to a student entering the third year of Petroleum Engineering.

The Cardston Pharmacy Scholarship of \$100 to a student of outstanding merit entering first year Pharmacy.

The Engineering Institute of Canada Prize for Third Year Students in Engineering was increased from \$25 to \$50.

The Robert David Sinclair Scholarship in Agriculture was increased from \$100 to \$150.

The Johnston Testers Limited Scholarship of \$500 to a student of outstanding merit entering the third year of Petroleum Engineering.

Calgary Kappa Alpha Theta Alumnae Prize of \$50 to an outstanding woman student entering the first year of the Bachelor of Education program at the University in Calgary.

The Civil Service of Alberta Bursaries, which include up to ten bursaries of a maximum of \$500 per year offered to first year University students who are children of civil servants in the province, retired provincial civil servants or deceased provincial civil servants.

Petrofina Group Western Canada Scholarships consisting of the Calvin Consolidated Scholarship, the Canada Fina Oil Scholarship, the Western Leaseholds Scholarship to be awarded to children of employees, company employees, senior matriculants or undergraduates. The value will be \$700 each per annum for a period up to and including four academic years or to graduation (whichever is the lesser).

Calgary Dentistry Society Scholarship of \$100 to a student entering third year Dentistry.

The Warner-Lambert Graduate Fellowship of \$1,200 offered annually for five years beginning in 1958 to a student of outstanding merit undertaking graduate work in Pharmacy.

The Dental Faculty of University of Alberta Class of 1950 Award Fund.

Table VIII—Staff Publications

Department of Anatomy

Thompson, J. S. University of Alberta, Faculty of Medicine. Can. Med. Assoc. Jour., 78:516, 1958.

Thompson, J. S. The Medical Student, His Background and His Problem. Can. Assoc. Jour., 78:493, 1958.

Salt, W. R. Professor William Rowan, Nature, 180:463, 1958.

Shaner, R. F. The "High" Defect in the Atrial Septum. Can. Med. Assoc. Jour., 78: (May 3), 1958.

Department of Animal Science

Asplund, J. M., Berg, R. T., McElroy, L. W., and Pigden, W. J. Dry matter loss and volatile fatty acid production in the artificial rumen as indices of forage quality. Manuscript submitted—expected to be published in the June issue of the Canadian Journal of Animal Science.

Bell, J.M., Bowland, J. P., Cameron, C. D. T., Crampton, E. W., Corson, R. B., DePape, R., Evans, E. V., Lloyd, L. E. Seale, M. E. and Wood, A. J. Nutrient requirements for Canadian Yorkshire swine. I. A Study of the U.S. N.R.C. (1953) Standards. Can. J. An. Sci. 37:79-89. 1957.

Clandinin, D. R. and Robblee, A. R. Diseases of Poultry. Univ. Alta. Bul. 45. June, 1957 (revised).

Goswami, M. N. D., Robblee, A. R., and McElroy, L.W. Cysteine desulfhy-drase activity in chick liver. Arc. Biochem. Biophys. 70:80186. 1957.

Goswami, M. N. D. and Robblee, A. R. Aspartic-glutamic transaminase activity in chick liver. Poultry Sci. 37:96-99. 1958.

Sibbald, I. R., Bowland, J. P., Berg R. T., and Robblee, A.R. The food intake and nitrogen retention of weanling rats fed protein-free rations. J. Nutrition 62:171-184. 1957.

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Staff. Thirty-seventh Annual Feeders' Day Report. Univ. Alta. Press Bul. June, 1958.

Department of Bacteriology

Myers, G. E. and Culver, Vivian A. "Bactericidal and Bacteriostatic Action of 1,6-di-4'chlorophenyl diguanidohexane against *Staphylococcus aureus*." Scientific Section, Can. Pharm. J., May, 1957.

Myers, G. E. "Antagonism of Micrococcus (Staphylococcus) toward Mycobacterium Including Human Tubercle Bacillus." Scientific Section, Can. Pharm. J., August, 1957.

Myers, G. E. and Barth, N. K. "Inactivation of Hexachlorophene by Human Serum and by Dead Bacteria." Scientific Section, Can. Pharm. J., 91: 63, 1958.

Wilson, T. S. and Toshach, Sheila "Cutaneous Diphtheria". Can. J. Surgery, 1:57, 1957.

Carmichael, J. W. "Geotrichum candidum". *Mycologia*, 49: 820-830, 1957.

Department of Biochemistry

Adie, P. A. and Tuba, J. The intracellular location of liver and kidney sarinase. *Can. J. Biochem. Physiol.* 36:21-24. 1958.

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Magee, W. L., Pritchard, E. T., and Strickland, K. P. Chlorpromazine and azacylonol and the *in vitro* labelling of phosphatides in brain preparations. *Federation Proc.* 16:215. 1957.

Rossiter, R. J., Pritchard, E. T., and Strickland, K. P. Metabolism of nucleic acid and lipides in brain and in peripheral nerve during experimental demyelination. *Neurology*, 8, suppl. 1:34-40. 1958.

Shanks, J. A., Paranchych, W., and Tuba, J. Familial multiple lipomatosis. *Can. Med. Assn. J.* 77: 881-884. 1957.

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Department of Botany

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Department of Chemical and Petroleum Engineering

Robinson, D. B. and Sinclair, C. G. "Minimum Fluidizing Velocities for Coal in Air", *Can. J. Chem. Eng.* 151-158, December 1957.

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Quon, D. "The Future of the Petrochemical Industry in Alberta", Oil and Gas Industries, 10, No. 9, 73 (1957).

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Govier, G. W., Short, W. L. "The Upwards Vertical Flow of Air-Water Mixtures: II: Effect of Tubing Diameter on Flow Pattern, Holdup and Pressure Drop", Can. J. Chem. Eng. Vol. 36, June 1957.

Department of Chemistry

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Department of Civil and Municipal Engineering

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Blench, T. "Unification of Flow Formulas". Proceedings International Association for Hydraulic Research, Lisbon Congress, July 1957.

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Blench, T. Discussion "The Boundary Layer Development in Open Channels", A. S. C. E. (Engineering Mechanics Division). Paper 1138, 1957.

Blench, T. Discussion "A Concept of the Regime Theory", Transactions, A.S.C.E. Paper 2884, 1957.

Blench, T. Discussion "Systematic Changes in the Beds of Alluvial Rivers". Proceedings, A.S.C.E. Hydraulics Division, Paper 1331, 1957.

Blench, T. Discussion "Mechanics of Streams with Movable Beds of Fine Sand", Proceedings, A.S.C.E. Paper 668, 1957.

Sinclair, S. R. "Some Aspects of Pile Foundations" (I. F. Morrison and S. R. Sinclair). Proceedings of Eleventh Canadian Soil Mechanics Conference, December 1957, and Roads and Engineering Construction, Dec. 1957.

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Department of Classics

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Department of Dairying

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Faculty of Education

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Table IX—Student Registration

SECTION A—FULL-TIME STUDENTS (Winter Session)																
Division I—Edmonton Campus																
Arts and Science																
1st Year		2nd Year		3rd Year		4th Year		5th Year		Males		Females		Total		
M	F	M	F	M	F	M	F	M	F	56-57	57-58	56-57	57-58	56-57	57-58	
75	69	90	65	85	50	6	9	...	...	180	256	160	193	340	449	
157	37	170	34	105	22	15	...	...	...	417	447	81	93	498	540	
...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	
40	4	16	3	...	...	...	...	...	...	57	56	4	7	61	63	
24	...	...	...	1	...	...	...	...	...	44	24	1	...	45	24	
...	1	...	...	3	...	1	...	...	...	3	1	7	5	3	7	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
269	111	276	102	191	75	21	10	...	...	702	784	253	298	955	1082	
Sub-Totals, Arts and Science																
29	1	18	...	29	...	21	1	...	...	106	97	4	2	110	99	
45	3	39	2	37	5	...	...	...	...	131	121	17	10	148	131	
27	1	26	...	23	1	31	...	...	...	111	107	1	2	112	109	
Commerce																
41	102	45	107	45	46	23	43	...	...	143	154	267	298	410	452	
...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1	
...	...	...	...	...	...	2	...	...	...	2	2	...	...	2	2	
...	...	...	...	...	...	23	18	...	...	13	23	5	18	18	41	
...	...	...	...	...	...	6	...	...	...	14	6	3	...	17	6	
90	272	...	...	...	...	...	...	...	...	62	90	199	272	261	362	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
131	374	45	107	45	46	55	61	...	...	234	276	474	588	798	864	
Sub-totals, Education																
Engineering																
53	...	131	...	60	...	53	...	...	...	264	297	...	...	264	297	
58	2	66	...	40	...	47	...	...	...	207	211	...	2	207	213	
57	...	50	...	47	...	27	...	...	...	110	181	...	...	110	181	
3	...	3	...	7	1	10	...	...	...	66	23	1	1	67	24	
25	...	32	...	24	...	14	1	...	...	62	95	...	1	62	96	
...	...	1	...	7	...	7	...	...	...	13	22	...	...	13	22	
...	...	...	...	...	...	...	...	...	...	2	5	...	...	2	5	
5	...	3	...	7	...	1	...	...	...	4	13	...	...	4	13	
2	...	5	...	...	...	...	...	...	...	173	184	...	2	173	186	
179	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
389	4	291	...	192	1	159	1	...	...	901	1031	1	6	902	1037	
Sub-totals, Engineering																

[illegible]

Table IX—Student Registration—continued

Division II—Calgary Campus	1st Year 57-58		2nd Year 57-58		3rd Year 57-58		4th Year 57-58		5th Year 57-58		Males 56-57 57-58		Females 56-57 57-58		Total 56-57 57-58	
	M	F	M	F	M	F	M	F	M	F						
Arts and Science																
B.A.	8	14	2	2	...	...	...	...	...	...	12	10	7	16	19	26
B.Sc.	24	10	...	...	...	...	...	...	...	...	31	24	11	10	42	34
B.A., B.Com.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
B.A., LL.B.	7	...	...	...	...	...	...	...	...	...	8	7	2	...	10	...
Pre dent	6	...	...	...	...	...	...	...	...	...	4	6	...	...	4	6
Sub-totals, Arts and Science	45	24	2	2	...	...	...	...	...	...	56	47	20	26	76	73
Commerce																
Education	16	3	...	...	...	...	...	...	...	...	13	16	1	3	14	19
B.Ed.	14	31	9	25	1	...	...	...	...	...	23	24	54	57	77	81
B.Ed. in Industrial Arts	5	...	6	1	6	...	...	1	...	...	20	17	...	1	20	18
B.Ed. after previous degree	...	...	...	...	...	...	...	...	...	...	4	...	3	...	7	...
Junior E.	32	121	...	...	...	...	...	...	...	...	25	32	129	121	154	153
Sub-totals, Education	51	152	15	26	7	...	...	...	...	...	72	73	186	179	258	252
Physical Education																
Engineering	1	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1
Civil	11	...	...	...	...	...	...	...	...	...	...	11	...	...	...	11
Chemical	5	...	...	...	...	...	...	...	...	...	...	5	...	...	...	5
Electrical	6	...	...	...	...	...	...	...	...	...	...	6	...	...	...	6
Petroleum	3	...	...	...	...	...	...	...	...	...	...	3	...	...	...	3
Not specified	30	...	...	...	...	...	...	...	...	...	...	30	...	...	...	30
Sub-totals, Engineering	55	...	...	...	...	...	...	...	...	...	...	55	...	...	...	55
Nursing																
B.Sc.	...	9	...	1	...	8	...	1	...	...	...	...	12	19	12	19
TOTALS CALGARY CAMPUS	167	189	17	29	7	8	...	2	...	...	141	191	220	228	361	419
GRAND TOTAL, SECTION A FULL TIME STUDENTS	1214	918	832	388	639	300	330	105	...	24	2913	3272	1575	1771	4488	5043
SECTION B—PART-TIME STUDENTS — DAYTIME CLASSES (Winter Session)																
Division I—Edmonton Campus	...	...	...	...	...	...	...	...	...	...	17	23	13	10	30	33
Arts and Science	...	...	...	...	...	...	...	...	...	...	1	4	1	1	2	5
Commerce	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Education	10	7	8	15	18	22
Engineering	3	4	...	...	...	...
Household Economics	...	...	2	2	2	2
Nursing (B.Sc.)	...	...	...	2	...	2
Pharmacy	1	6	...	...	1	6
B.D.	...	1	...	...	...	1
TOTALS, DIVISION I	36	45	25	30	61	75
Division II—Calgary Campus						
Arts and Science	...	...	...	...	...	...
Commerce	7	10	4	5	11	15
Education	3	3	...	...	3	3
Engineering	15	19	37	49	52	68
Physical Education	1	1	...	...	1	1
Nursing	...	...	1	1	1	1
TOTALS, DIVISION II	26	33	43	55	69	88
GRAND TOTAL, SECTION B	62	78	68	85	130	163
PART-TIME STUDENTS, DAY-TIME CLASSES						
SECTION C—PART-TIME STUDENTS — EVENING CREDIT PROGRAM						
Arts and Science						
Edmonton	21	35	16	20	37	55
Calgary	2	3	1	3	6	6
Camrose	2	...	1	2	3	2
Lethbridge	1	...	...	...	1	...
Holden	...	1	...	1	...	2
Medicine Hat	1	...	...	...	1	...
Total	27	39	18	26	45	65
Agriculture	1	...	...	...	1	...
Commerce						
Edmonton	6	19	1	5	7	24
Calgary	1	...	...	...	1	...
Total	7	19	1	5	8	24
Education						
Edmonton	62	76	110	118	172	194
Calgary	17	19	21	29	38	48
Lethbridge	6	17	11	10	17	27
Medicine Hat	11	4	9	2	20	6
Red Deer	11	7	8	13	19	20
Vegreville	11	24	5	17	29	29
Camrose	13	10	14	8	27	18
Holden	...	3	...	8	...	11
Total	132	160	178	193	310	353

Table IX—Student Registration—continued

	1st Year 57-58 M F	2nd Year 57-58 M F	3rd Year 57-58 M F	4th Year 57-58 M F	5th Year 57-58 M F	Males 56-57 57-58	Females 56-57 57-58	Total 56-57 57-58
Engineering Edmonton	...	...	...	...	...	1	...	1
Household Economics Edmonton	...	...	...	...	...	...	1	1
Nursing Edmonton	...	...	...	...	...	...	6	4
Physical Education Edmonton	...	...	...	...	...	1	...	1
Pharmacy Edmonton	...	...	...	...	...	...	...	...
Graduate Studies Edmonton	...	...	...	...	...	1	...	1
M.A.	...	...	...	...	...	...	...	...
M.Ed.	...	...	...	...	...	13	4	17
Provisional Graduate	...	...	...	...	...	3	1	4
Calgary	...	...	...	...	...	...	...	...
M.A.	...	...	...	...	...	...	1	1
Lethbridge	...	...	...	...	...	...	...	...
M.A.	...	...	...	...	...	1	...	1
Total	...	...	...	...	...	16	31	47
GRAND TOTAL, SECTION C	...	...	...	...	...	184	251	435
SECTION D — SPECIAL STUDENTS	...	...	...	...	...	...	...	...
Regular Winter Session (Edmonton and Calgary)	...	...	...	...	...	44	62	106
Evening Credit Program—	...	...	...	...	...	...	...	...
Edmonton	...	...	...	...	...	...	23	23
Calgary	...	...	...	...	...	19	10	29
Lethbridge	...	...	...	...	...	1	4	5
Medicine Hat	...	...	...	...	...	2	2	4
Red Deer	...	...	...	...	...	...	3	3
Vegreville	...	...	...	...	...	...	1	1
Holden	...	...	...	...	...	...	2	2
GRAND TOTAL, SECTION D	...	...	...	...	...	66	107	173
GRAND TOTAL, PART I	...	...	...	...	...	3225	3708	6933

PART II SUMMER SESSION 1957																
Edmonton											840	843	1058	1063	1898	1906
Banff School—											6	9	33	31	39	40
University Credit											80	80	368	380	448	460
Non-credit courses																
TOTAL, PART II											926	932	1459	1474	2385	2406
PART III SHORT COURSES																
1957-58																
Diploma in Dairying												15				15
Diploma in Advanced Practical													8	10	8	10
Obstetrics																
TOTAL, PART III												15	8	10	8	25

	1st Year 57-58 M	2nd Year 57-58 M	3rd Year 57-58 M	4th Year 57-58 M	5th Year 57-58 M	Males 56-57 57-58	Females 56-57 57-58	Total 56-57 57-58
PART I—Winter Session								
Section A—Full Time Day	...	...	...	...	...	...	...	...
Division I Edmonton	...	...	...	...	...	...	...	...
Division II Calgary	...	...	...	...	...	...	...	...
Section B—Part Time Day								
Division I Edmonton	...	...	...	...	...	...	...	...
Division II Calgary	...	...	...	...	...	...	...	...
Section C—Part Time								
Evening Credit Program	...	...	...	...	...	...	...	...
Section D—Special Students								
PART II—Summer Session, 1957								
PART III—Short Courses, 1957-58								
GRAND TOTAL	...	...	...	...	...	4151	3355	7506

Table X—Distribution of Students According to Age and Sex

Age	Male	Female	Total
16	15	15	30
17	153	232	385
18	466	553	1019
19	504	377	881
20	456	243	699
21	434	161	595
22	330	79	409
23	213	51	264
24	172	26	198
25	140	28	168
26	118	17	135
27	98	12	110
28	76	21	97
29	71	11	82
30	54	17	71
31	53	10	63
32	44	12	56
33	31	16	47
34	29	17	46
35	15	14	29
36	16	18	34
37	24	14	38
38	16	10	26
39	16	10	26
40	21	14	35
41	13	15	28
42	20	12	32
43	11	18	29
44	12	8	20
45	20	15	35
46	12	12	24
47	5	11	16
48	9	6	15
49	11	10	21
50	7	7	14
51	2	8	10
52	2	11	13
53	3	7	10
54	3	6	9
55	4	3	7
56	....	3	3
57	3	1	4
58	1	1	2
59	1	1	2
60	....	3	3
61	1	....	1
62	1	1	2
63	1	1	2
66	1	....	1
	<u>3708</u>	<u>2138</u>	<u>5846</u>

**Table XI—Classification of Students According to Religious Denomination
Session 1957-58**

	Males	Females	Total
Anglican	403	301	704
Baptist	131	75	206
Christian Science	2	4	6
Church of Christ	7	9	16
Church of Nazarene	11	10	21
Greek Catholic	68	27	95
Greek Orthodox	204	80	284
Hebrew	88	28	116
Latter Day Saint (Mormon)	91	60	151
Lutheran	221	114	335
Methodist	4	3	7
Presbyterian	109	67	176
Protestant (church not specified)	36	21	57
Roman Catholic	615	316	931
Russian Orthodox	1	.....	1
Seventh Day Adventist	5	4	9
Ukrainian Orthodox	25	19	44
United	1336	855	2191
Others	220	103	323
Not specified	131	42	173
	3708	2183	5846

Table XII—Distribution of Students According to Sex and Marital Status

	Male	Female	Total
Single	2834	1876	4710
Married	871	235	1106
Divorced	1	9	10
Widowed	2	18	20
	3708	2138	5846

**Table XIII—Distribution of Students According to Birthplace of Father
Session 1957-58**

A. British Empire—Commonwealth:

(a) Canada:

Alberta: Edmonton	157
Calgary	74
Lethbridge	28
Medicine Hat	27
Red Deer	23
Vegreville	17
Wetaskiwin	14
Camrose	12
Cardston	27
Grande Prairie .....	.....
Others on or North of Twp. 38	334
Others South of Twp. 38	216
Not specified	77

— 1006

Canada—not otherwise specified	141	
Newfoundland	11	
Nova Scotia	93	
Prince Edward Island	32	
New Brunswick	55	
Quebec	116	
Ontario	602	
Manitoba	229	
Saskatchewan	218	
British Columbia	57	
Yukon and Northwest Territories	3	
	—	2563
(b) <i>Other Parts of British Empire—Commonwealth</i>		
British Isles (including Eire)	940	
Dominions (S. Africa, New Zealand, Australia)	13	
All other British colonies, dependencies and members of the Commonwealth (including India, Pakistan, Ceylon, Rhodesia, Kenya, Guinan, etc.)	32	
	—	985
B. <i>Countries Outside British Empire—Commonwealth</i>		
United States of America	605	
Poland and Czechoslovakia	290	
Russia and Ukraine	422	
Balkan States (Yugoslavia, Roumania, Bulgaria, Albania, Greece and Turkey)	64	
Scandinavian States (Sweden, Norway, Denmark, Iceland, Finland)	205	
Germany, Austria (incl. Austria-Hungary)	280	
France	14	
Hungary	34	
China and Japan	90	
Holland	45	
Others	140	
	—	2189
C. <i>Information not specified</i>		109
		—
TOTAL		5846
		—

Table XIV—Distribution of Students According to Father's Occupation
Session 1957-58

<i>Occupational Classification and Occupation</i>	<i>Number</i>	<i>Totals</i>
<i>Professional</i>		
Accountants, Auditors	75	
Dentists	24	
Doctors	78	
Lawyers	49	
Ministers	68	
Pharmacists, druggists	32	
Professors, teachers	215	
Engineers and Land Surveyors	78	
Others	41	
	—	660

Business and Finance

Garage, service station managers and employees	102
Grain, oil, implement agents, livestock dealers	134
Hotelkeepers, restaurateurs and employees (including Motels)	65
Insurance, real estate, bond salesmen, stockbrokers	95
Retail Merchants, grocers, shopkeepers, clerks	257
Bank employees	40
Wholesale managers, clerks, warehousemen	63
Salesmen, Commercial Travellers, Manufacturers' Agents	90
Advertising	2
Others	244
	1092

Industry

Assayers, Industrial Chemists	3
Bakers, brewers	17
Dairy and creamery owners and employees	22
Farmers, ranchers, dairy farmers, poultry farmers, and market gardeners	1413
Contractors, builders	91
Lumbermen, building supplies, etc.	33
Manufacturers, factory foremen, employees, etc.	36
Oil and Coal Industry, Managers and employees	91
Meat packing managers, employees	32
Transportation owners, managers and employees	244
Others	45
	2027

Artisans and Skilled Tradesmen

Barbers, hair dressers	23
Carpenters, masons, bricklayers, plasterers, floor finishers	114
Electricians, radio repair, etc.	39
Mechanics, locksmiths, gunsmiths, etc.	65
Metal workers, welders, tinsmiths, blacksmiths	41
Machinists, lathe operators	24
Painters and decorators	28
Plumbers, gas and steam-fitters	20
Tailors, pressers, cleaners and dyers, shoemakers	27
Laborers, watchmen	104
Others	93
	578

Government Service

Civic or Municipal Employees	75
Provincial Government Employees	101
Dominion Government Employees	97
Armed Services	15
Members of Provincial and Dominion Parliament	5
Judges and Magistrates	5
	298

Retired	455
Deceased	618
Not specified	118
	5846

Table XV—Distribution of First Year Students not Previously in Attendance
According to Course and Home Address (Excluding Evening Credit Program)

ATTENDING EDMONTON

COURSE	EDMONTON													Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	
B.A.	57	6	3	1	3	1	1	2	1	1	20	10	2	112
B.Sc.	81	11	6	3	4	1	1	2	1	1	31	33	4	180
B.A., LL.B.	17	1	1	1	2	1	1	1	1	1	6	7	1	38
Pre dental	7	1	1	1	1	1	1	1	1	1	3	1	1	23
Dip. in Art														1
B.Sc. in Agric.	3	1	1	1	1	1	1	1	1	1	10	10	1	26
B.Com.	11	2	1	1	1	1	1	1	1	1	9	3	3	32
B.Ed. (Gen.) 4 year	18	1	3	2	4	1	1	1	4	2	58	33	3	129
Junior E	55	1	1	2	1	4	2	4	3	5	234	35	5	361
B.P.E.	6	1	1	1	1	1	1	1	1	1	2	1	1	12
B.Sc. in Civil Engin.	12	2	1	1	1	1	1	1	1	1	14	5	2	36
B.Sc. in Chemical Engin.	17	1	1	1	1	1	1	1	1	1	12	11	1	48
B.Sc. Electrical Engin.	19	3	1	1	3	1	1	1	1	1	17	7	1	54
B.Sc. Mining Engin.	1	1	1	1	1	1	1	1	1	1	1	1	1	3
B.Sc. Petroleum Engin.	1	1	1	1	1	1	1	1	1	1	9	1	1	20
B.Sc. Engineering Physics	5	1	1	1	1	1	1	1	1	1	3	1	1	7
B.Sc. Engineering Geol.	1	1	1	1	1	1	1	1	1	1	3	1	1	7
B.Sc. Metallurg. Engin.	52	5	5	3	4	1	1	1	1	1	54	23	1	162
Engin.—not specified	2	1	1	1	1	1	1	1	1	1	7	9	1	21
B.Sc. H.Ec.	10	1	1	1	1	1	1	1	1	1	7	7	1	23
Dip. in Physiotherapy	9	1	1	1	1	1	1	1	1	1	5	2	1	21
B.Sc. Nursing	34	4	1	1	3	1	3	1	1	1	30	15	8	99
Dip. in Nursing	21	8	2	1	1	1	1	1	1	1	11	3	1	48
B.Sc. in Pharmacy														
Totals	439	50	27	15	28	7	8	10	10	10	547	211	2	81461

ATTENDING CALGARY

COURSE	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Alberta—not specified	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Common-wealth	U.S.A.	Other countries	Not specified	Total
B.A.	19	1	1	1	1	1	1	1	1	1	10	134	2	2	3	1	1	1	1	21
B.Sc.	26	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	32
B.A., LL.B.	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7
Pre dental	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
B.Com.	1	20	1	1	1	1	1	1	1	1	3	19	1	1	1	1	1	1	1	12
B.Ed. (4 yr. course)	1	1	1	1	1	1	1	1	1	1	3	19	1	1	1	1	1	1	1	45
B.Ed. in Ind. Arts	1	32	6	4	3	3	3	3	3	3	6	94	2	2	2	2	2	2	2	151
Junior E.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B.P.E.	1	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
B.Sc. in Civil Engineering	1	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
B.Sc. in Chemical Engineering	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
B.Sc. in Electrical Engineering	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
B.Sc. in Petroleum Engineering	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
Engineering—not specified	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	27
B.Sc. in Nursing	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	9
Totals	2	168	8	6	4	4	4	1	1	1	10	134	2	2	3	1	1	1	1	339

Table XVI—Distribution of Daytime Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY	EDMONTON										OTHER COUNTRIES										Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others on or North of twp. 38	Others South of Twp. 38	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Columbia	U.S.A.	Other countries	Not specified			
Arts and Science	507	129	20	12	27	2	4	10	4	7	163	137	10	61	11	3	4	61117			
Agriculture	9	3	1	1	1	...	...	...	1	1	42	35	...	3	1	...	2	99			
Commerce	61	15	1	2	3	...	1	2	...	...	26	18	...	7	...	...	...	136			
Dentistry	29	16	...	...	...	...	...	...	...	...	13	6	...	52	2	...	...	109			
Education	211	19	18	11	9	9	3	9	9	10	426	131	1	19	1	...	...	886			
Physical Education	21	1	2	2	1	1	...	4	4	...	10	8	...	8	...	...	...	55			
Engineering	356	96	27	13	16	3	3	5	2	3	276	150	10	56	5	2	8	101041			
Home Economics	22	6	1	1	2	1	1	1	...	...	20	15	...	4	...	...	...	74			
Law	53	17	4	1	...	...	...	1	...	...	5	6	...	1	...	...	...	89			
Physiotherapy	12	7	2	...	...	...	...	4	...	...	4	3	...	16	...	...	...	44			
Medicine	98	24	6	1	2	3	...	1	2	2	33	28	3	3	...	3	...	210			
Nursing	133	20	8	2	8	1	5	4	2	...	111	63	1	43	1	...	...	402			
Pharmacy	66	16	3	2	4	4	...	2	2	2	41	9	...	2	...	...	...	145			
Graduate Studies	123	27	3	1	1	2	...	2	1	2	29	17	13	25	14	3	7	274			
B.D.	9	1	...	...	1	...	...	...	...	...	5	3	1	1	...	...	4	20			
Special Students	42	2	...	...	...	...	...	...	...	...	4	5	2	1	...	...	1	57			
Totals	1752	389	94	47	74	21	17	40	22	25	1208	634	42	304	35	11	22	214758			

ATTENDING CALGARY

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others—on or North of Twp. 38.	Others South of Twp. 38	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other countries	Not specified	Totals
Arts and Science		79		1								7		1					88
Commerce		19									2						1		22
Education	3	128	9	5	5				3		14	144	4	6	1				322
Physical Education		1																	1
Engineering		45	1									10							56
Nursing		16										4							20
Special		26										3				1			30
Totals	3 314	10	6	5	5				3		14	170	4	7	1	1	1		539

Table XVII—Distribution of Evening Credit Program Students by Faculty and Home Address
ATTENDING EDMONTON

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Cannrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others South of Twp. 38	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Yukon, and N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not Specified	Total
Arts and Science	45	1	...	...	1	...	...	...	...	...	5	2	1	...	...	...	...	...	55
Commerce	21	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	24
Education	142	...	1	...	...	...	2	...	...	...	27	12	1	8	...	1	...	...	194
Engineering	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Household Economics	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Nursing	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Pharmacy	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Graduate Studies	33	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	36
Special Students	42	2	...	...	...	...	...	...	...	...	2	1	...	2	...	...	...	...	49
Total	288	4	2	...	2	...	2	1	...	...	37	15	3	10	...	1	...	...	365

ATTENDING CALGARY

Arts and Science	3	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	6
Education	37	...	...	...	...	...	...	...	...	...	1	9	...	1	...	...	...	...	48
Graduate Studies	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Special Students	3	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	5
Total	44	...	...	1	...	...	...	...	...	...	1	11	...	3	...	...	...	...	60

ATTENDING LETHBRIDGE

Education	...	11	...	...	...	...	...	...	...	...	1	14	...	1	...	...	...	...	27
Graduate Studies	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Special Students	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Total	...	13	...	...	...	...	...	...	...	...	1	15	...	1	...	...	...	...	30

ATTENDING MEDICINE HAT

[illegible]

ATTENDING RED DEER

Education		1			4							10	5			20
Special Students					1								1			2
Total		1			5							10	6			22

ATTENDING VEGREVILLE

	12	17	29
Education			
Total	12	17	29

ATTENDING CAMROSE

[illegible]

ATTENDING HOLDEN

[illegible]

Table XVIII—Distribution of Students According to Pattern, Honors or Branch

	1st Year		2nd Year		3rd Year		4th Year		Total
	56-57	57-58	56-57	57-58	56-57	57-58	56-57	57-58	
Arts and Science									
B.A.—Pattern									
English	22	19	23	18	16	23	...	...	61
Music	4	5	5	3	3	3	...	...	12
Foreign Language or Literature	18	12	7	11	6	9	...	...	31
History	10	22	19	23	11	18	...	...	40
Philosophy or Psychology	45	39	30	47	23	37	...	...	98
Economics	13	34	16	27	14	21	...	...	43
Art	2	2	1	3	...	1	...	...	3
Political Science	1	5	5	4	3	3	...	...	9
Geography	3	2	1	1	1	4	...	...	7
Drama	4	2	3	4	1	3	...	...	8
Sociology	...	5	...	3	...	1	...	...	9
No pattern	...	...	...	...	1	...	...	...	1
B.Sc.—Pattern									
Chemistry	58	35	19	33	25	14	...	...	102
Mathematics	6	7	1	8	5	1	...	...	12
Physics	10	10	9	10	3	8	...	...	22
Geology	46	41	28	37	21	31	...	...	94
Botany	1	1	...	...	1	...	...	...	2
Entomology	2	...	...	...	3	2	...	...	2
Zoology	46	46	57	51	24	24	...	...	137
Special B.Sc. course	8	18	11	9	13	10	...	...	32
Experimental Psychology	12	14	6	7	4	2	...	...	22
Geography	...	1	...	...	1	...	...	...	1
General Science	...	6	...	11	...	3	...	...	1
No pattern	1	1	5	...	1	1	...	...	7
Engineering									
Civil	54	64	99	131	54	60	57	53	264
Chemical	61	65	66	66	50	40	30	47	207
Electrical	46	63	42	50	37	47	22	27	147
Mining	1	3	9	3	10	8	10	10	30
Petroleum	26	27	16	32	11	24	9	15	62
Engineering Physics	5	7	...	1	8	7	...	7	13
Engineering Geology	2	5	...	...	...	...	...	...	2
Metallurgical Engineering	...	2	3	3	1	7	...	1	4
Not specified	173	202	...	...	...	...	...	...	173

Honors

Biochemistry	4	1	...	4	...	1	...	...	4
Botany	3	3	...	5	...	6	...	...	3
Chemistry	17	17	...	9	...	9	...	8	36
Classics	...	...	...	...	...	...	...	1	...
Conservation Biology	1	...	2	1	1	2	2	1	4
English	4	4	1	3	4	1	1	4	4
Geology	5	9	5	5	3	7	3	16	12
History	1	2	...	...	...	3	...	1	22
Mathematics	6	7	4	5	...	5	1	11	6
Modern Languages	7	1	6	9	3	5	...	17	17
Philosophy	...	...	2	1	1	...	...	1	18
Psychology	4	1	2	1	4	1	...	1	1
Physics	8	8	8	8	3	7	5	4	7
Economics (formerly Pol. Economy)	...	1	2	2	2	1	1	3	26
Business Administration	...	1	...	...	...	...	...	...	6
Zoology	4	2	...	6	...	2	2	...	1
Physics and Geology	...	...	...	3	...	...	...	...	10
Physiology	...	...	...	1	...	2	...	...	3
Political Science (formerly Pol. Econ.)	...	1	...	...	...	1	...	1	3

Table XIX—Degrees and Diplomas Awarded

DEGREES AWARDED				DIPLOMAS AWARDED			
	Fall 1957	Spring 1958	Total		Fall 1957	Spring 1958	Total
ARTS & SCIENCE							
B.A.	29	93	122	Licentiate in Music	2	....	2
B.Sc.	12	69	81	Associate in Music ..	6	5	11
			<u>203</u>	Diploma in Art .....	....	1	1
AGRICULTURE							
B.Sc. ....	....	17	17				
COMMERCE							
B.Com.	5	38	43				
DENTISTRY							
D.D.S. ....	....	30	30				
EDUCATION							
B.Ed.	146	64	210	Senior	161	110	271
B.Ed. in Industrial				Junior Elementary ..	53	45	98
Arts	3	6	9	Junior High School	86	160	192
			<u>219</u>				<u>561</u>
ENGINEERING							
B.Sc. in Chemical							
Engineering	1	43	44				
B.Sc. in Civil							
Engineering	1	47	48				
B.Sc. in Electrical							
Engineering	3	24	27				
B.Sc. in Metallurg-							
ical Engineering ..	....	2	2				
B.Sc. in Mining							
Engineering .....	....	8	8				
B.Sc. in Petroleum							
Engineering .....	....	13	13				
B.Sc. in Engineer-							
ing Physics .....	....	7	7				
			<u>149</u>				
HOUSEHOLD ECONOMICS							
B.Sc. in Household							
Economics	5	21	26				
B.H.Ec.	1	1	2				
			<u>28</u>				
LAW							
LL.B.	1	21	22				
MEDICINE							
M.D.	4	43	47				
B.Sc. in Medicine	1	....	1				
NURSING							
B.Sc.	17	3	20	Nursing	63	24	87
				Teaching and			
				Supervision .....	....	9	9
				Public Health			
				Nursing	1	12	13
							<u>109</u>
PHARMACY							
B.Sc.	4	33	37				
PHYSICAL EDUCATION							
B.P.E.		12	12				
B.Ed. in Physical							
Education	3	3	6				
			<u>18</u>				
PHYSIOTHERAPY ..	....	....	....	Physiotherapy	15	....	15
GRADUATE STUDIES							
M.A.	1	5	6				
M.Sc.	9	24	33				
M.Ed.	9	8	17				
Ph.D.	1	5	6				
B.D. COMMITTEE							
B.D.		5	5				
TOTALS	<u>256</u>	<u>645</u>	<u>901</u>	TOTALS	<u>387</u>	<u>312</u>	<u>699</u>

Report of Dean A. G. McCalla of the Faculty of Agriculture

The administration of the Faculty of Agriculture was somewhat modified during the past year. Dr. C. F. Bentley was appointed Associate Dean of the Faculty last fall when Dean McCalla was appointed as Dean of the new Faculty of Graduate Studies.

Dr. J. D. Newton returned from Indonesia in January after completing an assignment of seventeen months with the Food and Agriculture Organization of the United Nations. Dr. W. G. Corns returned from sabbatical leave spent at the University of British Columbia and Dr. John Unrau left in August to spend a year at Cambridge University, England. Mr. F. V. MacHardy spent nine months at Northwestern University carrying on graduate studies leading to the M.Sc. degree. At the first of April 1958 he was promoted to Professor and appointed head of the Department of Agricultural Engineering. Dr. D. K. Lynch was appointed Assistant Professor of Soil Science, to take up his duties on June 15, 1958. He graduated from the University of Delaware and the University of Illinois. He will work in the field of soil microbiology. Dr. G. E. Ball was elected President of the Entomological Society of Alberta. Mr. W. E. Smith was appointed a member of the Scientific Advisory Committee for the Flax Institute of the United States. Two Postdoctorate Fellows, Dr. M. N. D. Goswami in Animal Science and Dr. J. A. Vliegthart in Plant Science, completed their terms at the University. Dr. Goswami received an appointment in the Department of Food Technology at Massachusetts Institute of Technology. Dr. Vliegthart returned to the staff of the University of Utrecht in the Netherlands.

Many members of the staff attended conferences and conventions and presented papers. A full listing is much too long to give in detail. Dr. J. Weiher was invited to take part in a symposium on gene structure and gene action at Monterey, California. Dr. W. G. Corns gave an invited paper at the annual conference of the British Columbia Academy of Science. Dr. A. G. McCalla was one of the three keynote speakers at the Workshop of the Canadian Agricultural Economics Society in Vancouver and was the invited speaker at the annual conference of the technical staff of Canada Malting Co. Limited in Montreal.

A submission was prepared for presentation to the Alberta Royal Commission on Education.

Academic

Registration of undergraduate students decreased somewhat this year, largely because there was a much smaller senior class than in 1956-57. There were 100 full-time undergraduates and one special student registered in the Faculty. There were 23 graduate students registered for M.Sc. work and 10 for Ph.D. Twelve students completed their degree work during the year. Five of these were in Ph.D. programs—four in Plant Science and one in Soil Science. Krishan N. Synghal was the first candidate to complete the Ph.D. program in Soil Science and the first Colombo Plan Fellow to receive this degree from the University. He has returned to India. The graduate programs of several departments promise to be heavier next year. It is significant that graduate studies is now taking such a large place in the work of the Faculty.

Research

Research work in general makes up a major part of the work of the

Faculty. It is, of course, related to graduate student numbers since each student working for an advanced degree must write a thesis based on original research. A great deal of the work, however, goes on whether or not there is an adequate number of students to assist. It is becoming increasingly difficult to review any substantial number of individual projects. The report submitted by the Department of Plant Science, for example, covers 22 pages and more than half of the report consists of very brief comments on 31 research projects.

Next year the Department of Agricultural Engineering will be in a position to extend its research work for the first time. At present work is proceeding on the two projects mentioned in last year's report.

The Department of Animal Science lists 26 research projects on which work was carried out during the year. Seventeen of these were in Animal Husbandry and nine in Poultry Husbandry. While nutrition work continues to hold first place, research in breeding has been increased. This is particularly true with swine, but also holds with sheep. Among the projects in which work has progressed to the point of publication is a study on the estimation of the value of forage crops by artificial rumen assays. These methods apparently give good estimates on the relative digestibility of samples of hay but not accurate absolute values.

The Department of Dairying has continued an extensive program of research on the physical properties of butter and lists several other projects, one of them in co-operation with a local dairy and one with the Defence Research Board.

The Department of Entomology continued work on seven projects and initiated research on six new ones. Several of these deal with toxicology problems and the importance of this field is reflected in the provision for the appointment of a toxicologist to the staff of the department.

As already indicated, the Department of Plant Science has maintained its strong emphasis on research. Much of this is on fundamental problems of great importance in the fields of genetics, cytogenetics, plant breeding, and related areas. There is increasing interest in the physiological and biochemical aspects of genetical problems. Work relating to ecology of cultivated and range crops is being expanded. The work on soft wheat has advanced to the stage where a quantity of about 1,000 bushels is being used to multiply the new potential variety. Many projects in the fields of horticulture, plant pathology, and biochemistry have been continued and expanded.

The most interesting results from the research work of members of the Department of Soil Science are probably those obtained by Dr. Newton in his pioneer research in Indonesia. It was discovered that molybdenum, a trace element required in very small amounts by plants, was deficient in the Great Soil Group of the tropics known as Latosols. About one-half pound of molybdenum per acre was effective on legumes. Other research projects were continued, along with the assistance of the soil survey program. Mr. J. A. Robertson took over supervision of the Soil and Feed Testing laboratory.

Once again it is a pleasure to record our thanks to the many organizations from which financial and other help was obtained. As usual, special thanks must go to the National Research Council of Canada and the Canada Department of Agriculture. The list of grants and donations is far too long to give in this report.

Extension

No great change in the extension activities has taken place during the past year, unless it is that the total demand for such work continues to increase.

Feeders' Day was, as usual, the most outstanding single extension event, drawing the largest crowd in its history. Estimates place the number at about 1,500. A very successful "fall" Feeders' Day was held at Brooks in co-operation with the Western Stock Growers' Association. The attendance was about 200. The Soil Science Field Day at Breton drew a good crowd, some from 150 miles away.

All departments were called upon to give radio talks, talks at short courses and farmers' meetings, etc. The number of letters, 'phone calls, and personal interviews appears to grow larger every year. The number of specimens of insects, plants, weeds, and diseased crops certainly is growing. Staff members acted as judges at fairs and as members of many committees.

The Administration of the Agricultural Soil and Feed Testing Laboratory was reorganized during the year. Dr. L. W. McElroy was appointed Chairman of the supervising committee while, as already indicated, Mr. J. A. Robertson is now the staff supervisor. The service provided by the laboratory will be greatly improved when it moves into the new, much larger quarters now being completed.

A special word of personal thanks must go to Dr. C. F. Bentley for taking over all routine administrative responsibilities of the Faculty since September. As Associate Dean he has made it possible for me to give the greatest part of my time to the new work in Graduate Studies. I should also like to mention the extra load carried by Dr. Corns as acting head of the Department of Plant Science while Dr. Unrau is on sabbatical leave. All members of the staff have given their co-operation in making the business of the Faculty run smoothly.

Report of Dean D .E. Smith of the Faculty of Arts and Science

I have the honour to present a report dealing with the Faculty of Arts and Science for the session 1957-58.

1. Registration

Detailed figures for registration will appear in the report of the Registrar, but certain trends may be noted here. Registration on the Edmonton campus increased from 1,000 to 1,117; that on the Calgary campus remained approximately steady with 88 (compared to 92 last year). There are 65 students registered in the Evening Credit Program in four centres (Edmonton, Calgary, Camrose and Holden).

2. Degrees and Diplomas

The number of students recommended for degrees is as follows:—

	October, 1957	May, 1958	Total
B.A.	29	82	111
B.Sc.	12	67	79
Senior Diploma			
in Art		1	1

3. Progress during the Session

(a) Administration—On the appointment of Dr. W. H. Johns as Vice-President, Dr. D. E. Smith of the Department of Psychology was appointed Acting Dean, from 9th September. He was confirmed in this post from 1st April,

1958. The title of Dr. Blackley was changed to "Secretary of the Faculty"; he was relieved of some of his teaching duties in the Department of History at the close of the regular winter session. The appointment of a second stenographer has led to much more effective handling of the increasing load of routine office work.

(b) *Lethbridge Junior College*—During 1957-58 this affiliated institution completed its first year of operation as a Junior College, with a registration of 177 students in this Faculty.

(c) *Brief to the Cameron Commission*—A brief on behalf of the Faculty was submitted to the Royal Commission on Education, of which Senator Donald Cameron is Chairman. A committee of the Faculty was appointed to collect submissions from departments and individual members of the Faculty. The committee collated these views and supplemented them where necessary; it prepared a draft for consideration of the Faculty. After lengthy discussion, a revised draft was approved by Council and submitted to the Royal Commission in mid-April. The Royal Commission has accepted the brief and has stated that a hearing will be arranged later, probably in the fall.

(d) *New Degree Programs*—The Faculty approved a new Honors program in Entomology and amended some of the Honors programs in patterns of the general course. Some of the regulations governing degrees were rephrased to eliminate minor difficulties in administering the regulations. A new program for the degree of Bachelor of Music was approved by the Faculty.

(e) *New Changes in Courses*—There are a number of changes to clarify the description of courses or to modify their content. In addition, a number of new courses were approved.

Chemistry—Organic Chemistry, Elementary Physical Chemistry, Advanced Thermodynamics, High Vacuum Technique. Entomology—Insect Physiology. Geography—Europe, Advanced Physical Geography. Geology—Photogeology, Advanced Structural Geology, Geological Research. History—History of France. Latin—Tacitus. Mathematics—Classical Algebra, Statistical Treatment of Experimental Data, Selected Topics in Theoretical Physics. Philosophy—Aesthetics. Physics—Advanced Electronics, Radiation Physics, The Production and Optics of Free Elementary Particles and Ions, Cosmic Radiation. Political Science—Soviet Government: Theory and Practice. Russian—Beginners' Russian (Science Section). Spanish—Second Year Spanish Authors and Grammar. One course was dropped: Mathematics 50—Algebra.

(f) *Leaves of Absence*—Leave of absence was granted to Dr. W. E. Harris of the Department of Chemistry to work at Chalk River for the year. Leave was granted to Dr. Heinz Helfenstein of the Department of Mathematics to work in Ottawa and to Dr. Irwin Guttman of the same department to work in Princeton.

(g) *Staff Changes*—Professor E. H. Moss retired as Head of the Department of Botany, but was reappointed for one year as Professor of Botany. Professor O. J. Walker, Head of the Department of Chemistry, also retired and returned as special lecturer in another faculty.

A number of comparatively junior members of the staff resigned during this session. Mr. J. W. Bilsland and Mrs. E. R. Hanna left the Department of English; Mrs. Hanna had been at the University of Alberta in Calgary. Mr. A. H. Lightstone resigned from the Department of Mathematics and Mr. M. J. Boote from the Department of Political Economy.

A new Department of Geography was formed with Professor W. C. Wonders as its Head; previously, Geography had been a division of the Department of Political Economy.

Dr. H. J. Brodie came to the University of Alberta to become Head of the Department of Botany and Professor H. E. Gunning came to become Head of the Department of Chemistry. The Department of Chemistry was also increased by the appointment of Dr. R. N. O'Brien and of Dr. H. B. Dunford (the latter in Calgary). Mr. A. D. Winspear was appointed special lecturer in Classics and Philosophy in Calgary. Dr. E. W. Mandel and Dr. J. M. Robson joined the English Department on the Edmonton campus and Mr. I. J. Logie the same department in Calgary. Dr. R. Common was appointed to the new Department of Geography and Dr. W. J. Eccles joined the Department of History. The Department of Mathematics enjoyed a large staff increase through the appointment of Dr. A. P. Guinand, Dr. S. S. Gupta, Dr. H. F. J. Lowig, Dr. G. C. Cree and Dr. E. L. Whitney. Dr. Esther Milner was appointed to the Division of Psychology of the Department of Philosophy and Psychology. Dr. H. A. Buckmaster and Dr. J. Lipson joined the Department of Physics on the Edmonton campus and Dr. C. E. Challice joined that department in Calgary.

4. *Department Reports*

Botany

The Department of Botany initiated a program of expansion and development preparatory to moving into the new wing of the Agriculture Building. Changes projected and in progress involve additions to the staff, reorganization of courses and provision for greatly improved facilities for teaching and research.

Dr. E. H. Moss retired at the end of August, 1957, and was succeeded by Dr. Harold J. Brodie as Head of the Department. As a sessional appointee, Dr. Moss carried on his teaching duties throughout the year. Two graduate students pursued studies in botany, one as candidate for the Master's degree and one for the Ph.D.

Special recognition came to two members of the staff.. Dr. R. G. H. Cormack was elected Fellow of the Royal Society of Canada and Dr. Lorene Kennedy was awarded the Ph.D. degree by the State University of Iowa.

Dr. E. Silver Keeping, formerly Honorary Research Associate in the Department of Bacteriology, joined the Department of Botany as Research Associate.

Dr. Cormack continued his research on the developmental morphology of the root hairs of higher plants. Dr. Kennedy concluded a long-term study of certain wood-rotting fungi and began the preparation of a monograph which will make a major contribution to systematic mycology. Dr. J. H. Whyte continued the introduction and testing of nursery stock potentially adaptable to Alberta. He also carried out greenhouse and field tests on the effect of pre-treatment of tomato seedlings on early ripening of the fruits. Dr. Moss completed the preparation of his *Flora of Alberta* which will be published by the University of Toronto Press. Dr. Brodie carried on research along two major lines: (1) the genetics of sexuality and nuclear migration in the Bird's Nest Fungi; (2) spore and seed dispersal mechanisms in plants. Mr. A. R. Prince at the Calgary Branch continued his study of the lichens of Alberta. The Department received grants in aid of research from the National Research Council and from the University General Research Fund.

Members of the Department participated in a variety of professional activities in addition to serving on several university committees. Dr. Cormack

lectured at the Provincial Ranger School at Kananaskis. Dr. Whyte attended a meeting of the Western Society of Horticulture at Banff and was elected Chairman of that organization's Section on Ornamental Plants. Dr. Brodie attended meetings of the National Research Council and of the Genetics Society of Canada and presented a showing by invitation of four biological films made by him as co-director. He also provided an exhibit for the Genetics Society of Canada illustrating his researches on sexuality in Bird's Nest Fungi. He served as President of the University Botany Club, as a member of the editorial board of the publication *Mycologia* and in other professional capacities. Dr. E. S. Keeping and Dr. Brodie both contributed lectures for a seminar on advanced genetics arranged by Dr. L. P. V. Johnson.

The Department contributed to campus affairs by providing special botanical exhibits at Christmas, at mid-term and for the students' Varsity Guest Weekend.

Chemistry.

A major task this year has been the introduction of a Ph.D. program and the implementation of this program in graduate research and instructional facilities. The Department of Chemistry has embarked upon a program which prepares students for the Ph.D. degree in Chemistry. In 1956-57 this Department had no Ph.D. program, with eight students studying for the M.Sc. degree in Chemistry. The number of graduate students has increased to 26 for 1957-58, ten of these students are Ph.D. candidates. Since the M.Sc. degree has little significance in modern chemistry, future graduate students will be accepted only if they indicate interest and abilities to proceed toward the Ph.D. degree. A large number of applications have been received from graduates of other universities, and from these approximately fifteen have been accepted as provisional Ph.D. candidates for the Fall of 1958. Graduate students proceeding to the Ph.D. degree in Chemistry are supported by Graduate Teaching Assistantships. These assistantships involve instruction in undergraduate laboratories, and 25 of such appointments will be available in the Fall of '58. These appointments will be reserved for graduate students who indicate, on the basis of their records, that they are capable of doctoral work. It is the objective of this Department to build the Graduate School over the next four years to a stage where approximately 100 graduate students will be actively working towards advanced degrees in this Department, with emphasis placed on the doctor's degree.

The development of adequate research facilities for a large graduate program in chemistry has been one of the formidable tasks undertaken by this Department. The major problem in the development of a graduate school in the present building has been the acute shortage of space. A program of conversion and organization of the present facilities is in progress. Modernization of facilities for research has been completed in three rooms, and other laboratories are in process of modification. Two new laboratories, one for research in photochemical kinetics and the other for research in physical organic chemistry, have been equipped and are in active use. A new laboratory for high vacuum research in mass spectrometry and reaction kinetics is in process of construction. Additional facilities for research in radiation chemistry and in synthetic organic chemistry are being developed.

The new Cary Model 14 Recording Spectrophotometer for the measurement of absorption spectra from the far-ultraviolet to the near-infra-red range has been set up in the Department. Analytical and research facilities for the investigation of infra-red spectra will be provided by two new infra-red spectro-

photometers, one for routine analytic work, and the other for high-resolution studies in the infra-red region. The National Research Council is co-operating with us by constructing a mass spectrometer which will be installed in the Department in the Fall. Substantial progress has been made in the provision of proper service facilities for research in the Department. Special tools for the fabrication of chemical research equipment have been provided by the establishment in this Department of a Machine Shop and a Glass-blowing shop. These now possess precision machining equipment, annealing ovens for the fabrication of scientific glassware, and related supplies. In addition, a large number of other items have been acquired for the research laboratories of the staff.

Dr. J. L. Morrison presented a paper at the Second International Congress on Surface Activity held in London, England, in April, 1958. Dr. R. J. Crawford attended the Organic Symposium of the American Chemical Society held at Rochester, N.Y., U.S.A., in June, 1957. Dr. J. L. Morrison, Dr. W. F. Allen and Dr. H. E. Gunning attended the National Meeting of the American Chemical Society held in San Francisco in April, 1958. Papers were presented by Dr. Morrison and Dr. Gunning. Dr. J. L. Morrison, Dr. W. F. Allen, Dr. W. J. Wallace and Dr. S. G. Davis attended the Conference of the Canadian Institute of Chemistry held at Vancouver in June, 1957. A paper was presented by Dr. Wallace, and a paper was also presented by Dr. W. E. Harris, who is on leave at Chalk River. Dr. Gunning presented a paper, and was participant in a Symposium on Reactivities of Excited Species held by the Canadian Institute of Chemistry at Ottawa in September, 1957. Dr. H. E. Gunning spoke before the C.I.C. Sections at Vancouver and Victoria in November, 1957, on Reactions Initiated by Photoexcited Isotopes.

Extensive changes are now being made in the Honors Program in Chemistry in order to bring undergraduate training in step with modern chemical education. The major changes are being made in the 3rd and 4th years. Topics included in the new program, either as new courses, or as an enlargement of former courses are Quantum and Statistic Mechanics, Photochemistry and Photochemical Kinetics, Solution Kinetics, High vacuum techniques, the Chemistry of Natural products, the Theory of Electrolytes, Chemical Bonding and Structure and other subjects at the senior and graduate level. A third course in mathematics at the advanced level is now required. The chemical research course, (Chemistry 110) has been increased from a half course credit to one that may give up to a maximum of two course credits, depending on the program of the student. There has been a broadening of the first course in inorganic chemistry for all students, with emphasis on principles rather than descriptive material. The laboratory has been revised to train the student in a wider variety of techniques. These changes in the Honors program should make our honors graduates the equivalent of the graduates from any major institution on this continent. The chemistry program for engineering students has been considerably modified. The new first year course will place emphasis on the principles of chemistry, and give the student a much broader understanding of the scope of chemistry. To this end, aspects of physical, organic and biochemistry will be included. This course can also be used for a basic course for those continuing the study of chemistry as well as those who will use this course merely as a terminal course. The course for chemical engineers will now include, in addition to the general course, a half course in analytical chemistry, one and a half courses in physical chemistry, and one course in organic chemistry, and a final year course in physical organic and chemical kinetics. The hours assigned to chemistry by the Chemical Engineering De-

partment have been changed by this Department from 14 hours of lectures and 15 hours of laboratory work for both terms, to 14 hours of lectures, one hour of recitation, and 10½ hours of laboratory work in the first term; and 15 hours of lectures, 1 hour of recitation, and 10½ hours of laboratory work in the second term.

Classics

Miss Mackenzie attended the Summer Session of the American School of Classical Studies in Rome, Italy, and received credits toward a Ph.D. degree. She also made trips to Pompeii and Herculaneum. Dr. May spent six weeks in research work at Princeton University.

In addition to its regular courses, two courses in the Evening Credit Programme were given—namely in Edmonton, Classics 53 with an attendance of 26 by Miss Mackenzie and in Calgary, Classics 51 by Dr. Alban Winspear.

Courses in Classics are now offered at the University of Alberta in Calgary, as a result of the appointment of Dr. Alban Winspear.

Miss Mildred Staples, an Honors Graduate in Latin of this University, was awarded a Woodrow Wilson Fellowship for 1957-58. She is doing graduate work toward an M.A. degree in Classics at Cornell University, Ithaca, N.Y., U.S.A.

English

In the fall of 1957 the department welcomed Dr. R. K. Gordon, its former Head, on a week's visit to the University, during which he gave a public address to the Humanities Association and two lectures to students in English. Another visitor was Professor A. D. Hope, of Canberra, Australia, who also addressed the Humanities Association and a joint meeting of English 51 and English 64.

Mr. R. G. Baldwin received the degree of Ph.D. at the University of Toronto Spring Convocation, 1957. Mrs. Nancy D. Cutt was appointed, on a sessional basis, to do work of a remedial kind with students whose use of English was below the level to be expected in the University. It is too early to assess the results, but Mrs. Cutt is preparing a report which will help us to make plans for next year.

R. G. Baldwin gave an address to The Dickens Fellowship, "Charles Dickens". A. T. Elder spoke to the Humanities Association, Calgary, on the topic "Irony and Humor in the Periodical Essays of the Eighteenth Century". H. Kreisel gave several addresses:

- at the Fall Convention of the Alberta Teachers' Association, Vermilion, "Essay Writing";
- to the Edmonton Art Gallery, "The Aesthetics of Modern Art";
- to the Humanities Association, Edmonton, "The Arts, Useless but Expensive";
- and to the Psychology Club, U. of A., "Psychology and Literature."

E. W. Mandel spoke to the Association of Canadian University Teachers of English on "Christopher Smart's Jubilate Agno as Poetic Theory". F. M. Salter addressed the Annual Assembly of Victoria College, Victoria, B.C., on the topic "This Bank and Shoal of Time", and the Men's Faculty Club on, "Are we downhearted?" He also took part in the Workshop of the Teaching of English, Wetaskiwin, January 9 and 10, 1958.

Messrs. Baldwin, Ryan and Scargill are active on committees preparing for the meetings of the Learned Societies. A. T. Elder has for a year been

secretary of the A.T.S.U.A., and is on the national committee of the Association of Canadian University Teachers of English.

M. H. Scargill is chairman of the dictionary committee of the Canadian Linguistic Association.

H. Kreisel, J. T. Jones and F. M. Salter are on committees appointed by the Canada Foundation of the Humanities Research Council to assist the Canada Council in making awards.

Fine Arts

Painting Division—This year the work in the Art Department showed steady improvement throughout and is of a much higher standard than it was a few years ago. Exhibitions were held in the Rutherford Gallery, on the second floor of the Arts Building, and in the foyer of Studio Theatre. There were

4 travelling Western Circuit exhibitions

3 travelling exhibitions, national and international, sponsored by the National Gallery of Canada

1 students' exhibition

1 Mrs. O. J. Walker class exhibition in Studio Theatre

1 Banff Travelling Exhibition in foyer of Convocation Hall.

During Guest Weekend a large exhibition of our own students' work was held in Room 132, Arts Building.

The following lecturers were sent out by the National Gallery:

Dr. James Watrous, Chairman, Department of Art History, University of Wisconsin.

Mr. Denys Sutton, British Art Critic, lecturer and author.

Professor Glyde was asked by the National Gallery to represent the Fine Arts Department at the special conference held in Regina in April, 1958. This dealt with the set-up of an organization in Western Canada which would work with the extension department of the National Gallery. During the meeting it was decided to abandon the old Western circuit and form an organization which would include the Western Universities, all major art galleries, and smaller art centres. A co-ordinating council composed of representatives from each province will be elected to work with the extension representative from the National Gallery. This will deal not only with exhibitions, but with lecturers, films, and general didactic material which will be organized through the National Gallery. Professor Glyde also completed two large murals, one for the new Edmonton City Hall, the first aluminum mural to be designed and produced in Edmonton; the other, in tempera-oil for the Public Library at Medicine Hat.

Mr. J. B. Taylor was again responsible for planning and carrying out, with the senior art students, the decoration scheme of the Homecoming Ball for the Guest Weekend. Mr. Yates was appointed Special Supervisor of Art for the Vegreville School Division which took him into the communities for six weeks at the close of the 1956-57 university session. All staff members co-operated with and assisted materially the Junior Hospital League in lending their paintings for their Art Rental project.

Mr. H. G. Glyde was awarded a Canadian Council Senior Travelling Fellowship for 1958-59 for study in London and Rome. He also exhibited this year in the Royal Canadian Academy, the Canadian Society of Painters in Water Color, and the Canadian Graphic Arts Society. Mr. E. N. Yates exhibited with the Canadian Society of Painters in Water Color and the Canadian Graphic

Arts Society. His original stage designs and costumes for several plays presented in Edmonton were exhibited in studio theatre as one of the finest series to be designed over the last few years.

Drama Division—Students of the Drama Division presented two productions; *Three One-Act Plays* and *The Matchmaker*. The Division assisted other student groups to present *The Inter-Faculty One-Act Play Competition*, *Summer and Smoke*, and *French Nights*. The Alumni players presented *Inherit the Wind* and *Charley's Aunt* at the Studio Theatre.

Mr. Peacock was re-appointed a Governor of the Dominion Drama Festival for 1958.

Music Division—The Mixed Chorus presented three concerts in Convocation Hall on January 27, 28 and 29, and during the rest of this week concerts were given in Westlock, Red Deer and Bentley. Carol singing in the University Hospitals, the Varsity Guest Weekend and a half-hour CBC broadcast, rounded out the season. On its Annual Spring Tour, again under the sponsorship of the Cultural Activities Branch, the chorus formed part of a "Maytime in Alberta" program. The places visited were Edson, Drayton Valley, Stony Plain, Ponoka, Camrose, Olds, Innisfail, Three Hills, Drumheller, Hanna, and Stettler.

The activities of the University Symphony began at the Annual Christmas Concert, this being followed in February by two concerts, one in Camrose and the other in Convocation Hall. The season concluded with a shared program at Varsity Guest Weekend.

Geography

It is worth noting that both of the first two graduates in Geography from the University of Alberta in 1957 were granted postgraduate awards by other institutions and are continuing with further studies in Geography. One holds a teaching fellowship at the University of Minnesota; the other holds an Arctic Institute-McGill University fellowship. This year he is officer-in-charge of Canada's farthest north International Geophysical Year station at Hazen Lake, Ellesmere Island, N.W.T.

Enrolment in Geography continues to increase. On the Edmonton campus 359 students were registered in Geography during the 1957-58 academic year. Geography 71 (Northern Lands) was offered for the first time this year by Dr. Wonders, with 12 students registered. During 1957-58 Geography 1 was introduced on the Calgary Campus for the first time. Geography 1 was offered at Summer Session 1957 by Dr. D. F. Putnam, Professor and Head, Department of Geography, University of Toronto.

Dr. W. C. Wonders spent the first half of the summer of 1957 lecturing in Political Geography to permanent army officers at Royal Military College, Kingston, Ontario. Dr. A. H. Laycock successfully defended his thesis "A Physiographic Classification of Soils for Land Use Planning on the Eastern Slope of the Canadian Rockies" and was awarded the Ph.D. degree in Geography by the University of Minnesota at its December convocation, 1957.

Prof. F. R. Anton assumed responsibility for offering Geography 1 on the Calgary campus in 1957-58 as a part-time member of the Department.

Dr. Wonders continues his research on settlement in the Mackenzie Valley area. A special travel grant of the University enabled him to make a reconnaissance survey of the Valley from Ft. Smith to the Arctic coast in the latter part of the summer of 1957. The Canadian Social Science Research Council awarded him \$1,500 towards his expenses for research on the same area

over the summer of 1958. Dr. Laycock continues his study on "Water Surplus and Deficiency Patterns in the Prairies" for the Prairie Provinces Water Board. A University research grant enabled him to extend the program to include Northern Alberta. Dr. Common completed a fuel and power study of the Glasgow area for inclusion in a forthcoming British Association Handbook. During the second term he continued with his work on Greece, and completed a general review of development there since 1930.

W. C. Wonders is a Councillor in the Canadian Association of Geographers, and a member of the Canadian Committee of the International Geographical Union. He was chairman, 1958 Convention Committee for the Canadian Association of Geographers meeting in Edmonton. Both Dr. Laycock and Dr. Common devoted much time to assisting in the preparation of the program and field trips.

Geology

Honor came to the department with a testimonial dinner given for Dr. Warren, professor emeritus, by the Alberta Society of Petroleum Geologists. Dr. Taylor was invited to participate in a conference on Permafrost problems held by the National Research Council in Ottawa. Dr. Burwash, member of the basement rock committee of the American Association of Petroleum Research, has been given charge of the Canadian portion of this continental project. Gordon Williams, our first Ph.D. candidate in Geology, was awarded the Imperial Oil Graduate fellowship in competition with geologists from all of Canada.

During the past year members of the department have presented papers in many different centers: at Washington, D.C. (American Geophysical Union); at Los Angeles (American Association Petroleum Geologists); at Bangkok (Pacific Science Congress); at Atlantic City (Geological Society of America); at Toronto (International Union of Geology and Geophysics); and more locally Lethbridge (Field Conference, A.S.P.G.); at Calgary (Alberta Society of Petroleum Geologists); at Edmonton (Edmonton Geological Society and the Empire Mining Congress). The department has been able in this way to maintain international liaison with fellow geologists in geophysics, geochemistry, petroleum geology, mining and paleontology.

History

The History Department, during the session 1957-58, offered two junior courses and twelve senior courses, with a total enrolment of some 600 students. In addition Dr. Thomas and Dr. Eccles taught courses in the Evening Credit Program.

A number of research projects are underway by members of the Department. Dr. L. G. Thomas has completed his *The Liberal Party in Alberta, 1905-1921*, and it has been accepted for publication by the University of Toronto Press. Dr. W. J. Eccles has completed his *Frontenac, the Courtier Governor* and it is to be published in the Autumn of 1958 by McClelland & Stewart in Toronto. Dr. Eccles is also under contract for a volume in the Canadian Universities Series, edited by Creighton & Morton, entitled *The Province of New France under Louis XIV, 1663-1707*; for a volume in the Frontier History Series, entitled *The Canadian Borderlands*; and for an article on "The Struggle for a Continent, 1689-1760" for the *Book of Knowledge*, research for all of which is in active progress. Dr. F. D. Blackley and Dr. W. D. Farnham are engaged in investigating Land Tenure in Proprietary Pennsylvania. Dr. Farnham is preparing a monograph on Grenville Dodge, an American celebrity.

Several members participated in the meetings of the Learned Societies in Edmonton in June, 1958. L. G. Thomas has been on the Social Committee and W. J. Eccles, Chairman of the Program Committee for the Canadian Historical Association. Dr. Blackley read a paper on "Bishops and Learning under Edward III" and Dr. Farnham another on "Study of United States History in Canadian Universities."

Mathematics

During the summer of 1957, Dr. O. P. Aggarwal and Dr. A. H. Lightstone attended the Summer Research Institute at Kingston, Ontario. Several members of the department received summer research grants from the National Research Council.

The Canadian Mathematical Congress held a seminar in Edmonton from August 12 to 31, 1957, in conjunction with the first seminar of the Canadian Association of Physicists (Theoretical Physics division). Several distinguished mathematicians from Europe and the United States were present, and gave courses of lectures. These included Professors A. D. Alexandrov, Rector of the University of Leningrad, J. Dixmier (from Paris), Philip Hall (from Cambridge, England), A. W. Tucker and E. P. Wigner (from Princeton). One of the courses of lectures, on Number Theory, was given by Dr. L. Moser. A special convocation was held on Friday, August 16th, at which honorary degrees were conferred on Professor H. S. M. Coxeter and Professor E. P. Wigner.

Dr. Alexandrov gave a public address in the Edmonton Jubilee Auditorium on the educational system in the U.S.S.R. This address was very well attended.

Immediately after the seminar, the fourth quadrennial Canadian Mathematical Congress was held in Banff. The program included panel discussions on High School Mathematics and on Mathematics in the University and in Industry. Several invited addresses were given and sessions were held for contributed papers in various branches of mathematics and theoretical physics. Dr. D. R. Crosby presented a paper on Unified Field Theory.

Professor P. Erdős spent three weeks here in April, 1958 as a guest of the University. He is a very distinguished mathematical scholar, and gave a series of talks on combinational problems, probability theory, number theory, and allied topics. He also worked on research problems in collaboration with Dr. Moser.

Professor Keeping represented the department at a conference on digital computers held at Pullman, Washington. The University of Alberta has now installed an electronic computer of the LGP 30 type, and members of the department, particularly Dr. G. K. Horton, have made much use of the machine in solving their problems. Dr. L. Moser attended the annual meeting of the American Mathematical Society and the Mathematical Association of America in Cincinnati, January, 1958. Dr. M. Wyman attended the Royal Society of Canada meetings in June, 1957. Dr. S. S. Gupta gave a paper at the annual meeting of the Institute of Mathematical Statistics, Atlantic City, in September, 1957.

A new Canadian mathematics publication has appeared, the Canadian Mathematical Bulletin. Professor Moser is Problems Editor and Professor Keeping News Editor for this new venture.

Modern Languages

While registrations in most courses showed little change from last year,

there was a 50% increase in the first year of Scientific German, necessitating the addition of a third section in this course. Owing to a growing demand for Scientific Russian, a course which has been given privately by Dr. Star-chuk to scientists and graduate students was authorized for credit. First-year Spanish was added this year to the Department's offerings, and a sequent course authorized for next year.

Miss M. Sporleder returned from France as Sessional Lecturer in French and Russian. Another graduate, Miss M. A. Brine, was attached to the Department as a Fellow to teach English to foreign students. Three students were registered for work leading to the M.A. One-act plays by Marivaux and Courteline were performed in French by students of the Department, under the direction of E. J. H. Greene and M. Sporleder, with the co-operation of the Drama Division.

Dr. E. Reinhold was an official delegate of the Canadian Linguistics Association to the Eighth International Congress of Linguists, August 5-9, 1957, at the University of Oslo in Norway, and to the Seventh Congress of the International Federation for Modern Languages and Literature, August 25-29, at the University of Heidelberg, West Germany.

Philosophy and Psychology

The testing and counselling service operated by this Department continued this year. In the past cases handled by selected graduate student assistants (one being appointed for each year). This year such help was not available and the work was carried on by members of the Department, chiefly Dr. Spearman and Miss Wilson. The case-load was somewhat heavier than in previous years. There were 49 cases during the period of operation from October to January as against 23 for a similar period last year. This confirmed our expectation that as the services became better known there would be an increased demand.

Professor R. L. James continued the teaching of an expanding program of sociology courses and took an active part in a number of important community projects. He continued as Research Associate for the Edmonton Council of Community Services in its study of the wants and needs of aged citizens. Dr. James also contributed 5 hours of lecturing and discussion to the leadership training program of the Edmonton Recreation Commission and he is a member of the research committee of the Alcoholism Foundation of Alberta. This month he attended and read a paper at a meeting of the Pacific Sociological Society.

Two members of the Department, Miss Milner and Professor Mardiros, were awarded short-term grants by the Canada Council to enable them to pursue their research during the summer. Miss Milner is engaged on an exploratory theoretical study of the relationship between the development of the human central nervous system and the development of human behaviour. Professor Mardiros is planning to spend part of the summer in Europe gathering material for his work-in-progress on aesthetics.

Professors Mardiros and Penlhum both attended and read papers at the Canadian Congress of Philosophy held in association with the Conference of Learned Societies at Ottawa. Professor Penlhum was selected as a participant in the Danforth Foundation Seminar on the Natural Sciences and Religion, held at the Pennsylvania State University. Professor Penlhum also contributed the winning entry to a philosophical problem set by the British Journal of Philosophy "Analysis".

During the past year Professor J. F. Lambert has carried on research in both logic and experimental psychology. Dr. Lambert conducted a series of experiments on the effects of intense drive on perception. A further series of experiments (supported by a university research grant) carried out by Dr. Lambert and Mr. Gorfein which attempted to solve the problem of what is learned in a punishment problem has been completed and is now being prepared for publication. Analysis by Professor Lambert have been described and acknowledged.

Physics

The department has continued to grow, both in staff and students. Eight graduate students have been working on research projects, five of whom have come from other universities to undertake Ph.D. studies here.

The Theoretical Physics Group has continued to be very active. Dr. Bhatia has been working on the theory of propagation of elastic waves in crystalline media, including the problems of both dispersion and absorption. This is closely related to the work on specific heats of crystal lattices, which has been continued by Drs. Schiff and Betts, in collaboration with Dr. Horton of the Mathematics Department. Dr. Trainor has been working on some theoretical aspects of the nature of the new types of elementary particles which have been discovered in recent years, as well as on the related problem of the properties of nuclear matter. All this work has been carried out with the assistance of graduate students. The facilities for work of this nature have also been greatly increased through the acquisition by the University of a Royal-McBee LGP-30 Digital Computer.

In August, 1957, the Theoretical Physics section of the Canadian Association of Physicists met on the campus at the same time as the Mathematical Congress. They were in Edmonton for two weeks, and then adjourned to the Banff School of Fine Arts for another week. Six series of lectures were given by distinguished visitors from Canada and the United States. The notes of these lectures have been reproduced in multilith form, and over a thousand copies have been sold.

In Geophysics, Dr. Garland has continued his gravity survey of the Canadian Rockies area, and also his survey of earth currents and magnetic variations in the prairie provinces. Dr. Lipson has been building a mass spectrograph, which is to be used in collaboration with the Geology Department for the program of dating rock deposits by the potassium-argon method. Dr. Gowan has continued his studies of atmospheric ozone, and of methods of recording solar ultra-violet radiation. Drs. Garland and Gowan have both been associated with portions of the International Geophysical Year program, the former as director of the joint expedition of the Universities of Toronto and Alberta to the Salmon glacier in British Columbia, the latter in training observers in the use of ozone instruments for stations in the far north. In September Dr. Garland attended the assembly of the International Union of Geodesy and Geophysics, where he gave a paper.

Dr. Scott and a graduate student have been studying the relative biological effectiveness of beta and gamma radiation, information required in connection with therapeutic use of beta-ray sources. He has also collaborated with Dr. H. E. Duggan of the University Hospital on studies of the use of radio-iodine and radio-phosphorus in diagnosis and in therapy. Dr. Newbound has been recalculating and compiling the results obtained by students over the past four years concerning the precise measurement of wave-lengths in the

spectrum of mercury 198, and concerning new measurements of the refractive index of air. Dr. Harrold has continued his work on the interferometer method of studying microscopic detail of metal surfaces, with especial attention to corrosion pits in aluminum. Dr. Buckmaster has started a project on the study of paramagnetic resonance in certain organic materials. He and a graduate student have spent most of the winter building the necessary apparatus. Dr. Grayson-Smith has continued to act as chairman of the committee of the Alberta Research Council concerning the acoustical testing of the Jubilee Auditorium, and also to sit on the committee concerning hail research. He has also made extensive revisions to the textbook, "College Physics," for a third edition to appear in 1958.

Political Economy

The enrolment in Economics during the academic year, 1957-58, was 800, about 10 per cent above that of 1956-57. The enrolment in Political Science was 240. These figures exclude Calgary and Lethbridge. In Calgary, there were 40 students in Economics 1 and 44 in Economics 65. In Lethbridge, 6 students were enrolled in Economics 1. Mr. F. Rudd of the staff of Lethbridge Collegiate instructs in Economics 1 there. Fourteen students were registered as graduate students. Three of these completed their M.A. degree requirements this year.

Eric Hanson completed his manuscript on the oil-industry in Alberta in October, 1957. The publisher, McClelland and Stewart, indicated that it would probably take about six months to publish as a book. The publication month was to be May, 1958. He has also undertaken a study of the fiscal capacities of the Canadian provinces for the Canadian Tax Foundation; this involves surveying studies made in the United States and Australia. W. D. Gainer and W. Mackenzie are working on projects noted in connection with their leaves of absence. Mr. Bauer is working on his Ph.D. thesis on credit unions in Quebec. B. Bociurkiw is working on his Ph.D. thesis on Church and State in Soviet Russia, and has been awarded a short-term grant from the Canada Council to spend several weeks in Washington, D.C. to interview church leaders and to obtain access to necessary library facilities. Frank Anton is working on his Ph.D. on Government-supervised Strike Votes in Alberta and British Columbia. G. R. Davy is completing a study of the Alberta liquor plebiscite in October, 1957.

Members of the Department participated in a variety of activities according to their special training and interests. These activities included a number of radio talks, speeches, addresses at conventions and consulting work. G. R. Davy has been particularly active in W.U.S. work and debating.

A program of instruction in Assessment and Municipal Administration was worked out during the year with the Department of Extension. E. Hanson is Director of Curriculum for these courses, and he has also become a member of the Alberta Equalization Assessment Commission.

Several unpublished papers were delivered by members of the Department at conventions of various kinds. Several papers are pending publication.

Zoology

During the academic session the Department taught eight courses to approximately eight hundred students. The regular academic staff was assisted by a sessional fellow and fourteen undergraduate demonstrators. Four candi-

dates for the Master of Science degree studied in Zoology; three completed the requirements during the session and will graduate in May.

The Alberta Biological Station was in operation from April to September, inclusive, 1957. Aside from department members the staff consisted of three graduate and three under-graduate students. Research was carried out on:

- (1) The reasons for the failure of hatchery-reared trout to survive in competition with wild trout in a stream. Studies were made on the blood lactic acid content and the liver and muscle glycogen of the competing fish and compared to similar studies on non-competing fish. The theory that the fish die largely from exhaustion was bolstered strongly by the results.
- (2) The biology of the blue grouse, a large game bird of the foothills and mountains.
- (3) The life history and management of the Rocky Mountain Bighorn sheep. Studies (2) and (3) were supported by grants from Canadian Industries Limited.
- (4) The life history and management of mule deer.
- (5) Home range and territoriality of cutthroat trout.
- (6) Migration of Rocky Mountain whitefish.

Dr. J. E. Moore continued his studies of the amphibians, reptiles and mammals of Alberta. Collecting trips were made to various parts of the province.

Dr. J. R. Nursall continued his work on locomotion and body form in fishes. He spent the summer at Vancouver as a guest of the Institute of Fisheries, University of British Columbia, where he dissected various species of fast-swimming marine fishes.

Dr. G. O. Mackie also spent the summer in Vancouver where he studied the processes of healing or regeneration in relatively simple forms of life.

In November, Dr. Moore lectured at the Kananaskis Forestry School. Dr. Miller represented the University at meetings of the National Research Council in Saskatoon and Ottawa. He also contributed to a symposium in Vancouver on fish-power problems and to one in Ottawa of effects of various types of water use on freshwater fisheries. Dr. Miller was appointed to the Fisheries Research Board of Canada for a five year term.

Report of Professor B. A. Lindberg, Director of the School of Commerce

Faculty Changes

Mr. Winfield S. Carrick was appointed as Lecturer (Case-Writer) on 15th August, 1957. He resigned effective 15th August, 1958.

Mr. William Preshing was appointed as Lecturer (Case-Writer) on 1st September, 1957.

Mr. Arnold O. Saffel was appointed as Assistant Professor (Accounting) on 1st September, 1957.

Mr. John R. Munro, Jr., and Dr. Stanley S. Greenhill were appointed as Adjunct Instructors (on stand-by basis, for Business Administration).

Professor Emmett Wallace resigned effective 31st August, 1958.

Professor B. A. Lindberg offered his resignation "effective at the pleasure of the President". At the request of the President he continued his work until the end of the Academic year.

Case Collection

The cases now copyrighted by the University of Alberta number 158. Many of these cases are being used by sister educational institutions and in educational and training activities pursued by firms in business and industry as well as governmental departments and eleemosynary institutions.

Evening Courses

During the year a new course **HEALTH & HUMAN RELATIONS IN BUSINESS & INDUSTRY** was developed and offered. Stanley S. Greenhill was the instructor in charge of the 20 students registered in the course.

School of Commerce Council Activities

The Council met seven times during the year.

A standing committee on curriculum changes was established on 15th October, 1957 and an interim report submitted on 4th December, 1957. The recommendations of this committee included: (1) A first-year program designed to provide a broad foundation through study of the humanities, science, and the role of business in society: (2) The provision insofar as possible, in the second year, of the core courses in business administration, accounting, finance, administrative practices (human relations and personnel), marketing and production, and: (3) A third-year program providing for a limited degree of specialization in any of the core areas listed above and economics.

Freshman Week

A Program for freshmen during their first week was instituted in the School of Commerce in 1956-57, and was continued in 1957-58. This programme, worked out in conjunction with Dr. A. J. Cook of the Student Advisory Services, consisted of a variety of tests and discussion groups during the days following the initial registration.

Banff School of Advanced Management

Faculty members of the School participated in the Banff School of Advanced Management as instructors and observers. Faculty Members also co-operated with instruction in another program offered at the Banff School of Fine Arts: the University Short Course in Personnel Management.

Department of Accounting

During the academic year 1957-58 the staff of the Accounting Department conducted classes in the Faculties of Law, Pharmacy, Dentistry and Arts and Science including the School of Commerce and Household Economics. Certain of these areas involved merely a token presentation but there appears to be developing interest and an increased demand for instruction in the accounting field particularly in the professional areas.

The Accounting Department working in close collaboration with the Extension Department continued their work with the professional accounting societies both in the area of participation in the instruction provided and in acting on their councils and educational committees of these societies throughout the year. During the early part of September review classes were held in Calgary and Edmonton for the students in Chartered Accountancy preparatory to writing the October examinations.

In line with our collaboration with the business community the Accounting Department working with the Extension Department, instituted a course in Financial and Accounting Controls for medium and top management. This

course was well received with sixty registrants. This necessitated a second section for the course.

The research activities of the department have been confined to a limited area. The financial statement analyses of some three hundred Canadian Corporations are being continued and it is expected that some definite report will be made available in the coming year.

A new member, A. O. Saffel of Calgary, was added to the staff of the Department in Edmonton in September, 1957 and Mr. R. C. Berglund replaced Mr. Ross Alger as instructor in Calgary. I wish to express our appreciation at this time to the work which Mr. Alger carried out in the Calgary area during the period in which he was instructing for the department in that area.

The department has introduced the use of accounting machines into the courses given to the Commerce students and this was well received by them. It is expected that this part of our program will be expanded in the coming year.

Report of Professor Hazel McIntyre, Director of the School of Household Economics

I beg to submit the following report of the School of Household Economics for the year 1957-58:

Changes in Courses

The General Faculty Council approved the change in the statement of matriculation requirements for the School of Household Economics. Students will now be required to submit credit in Chemistry 30 of Grade 12, and either Physics of Biology as a second science, the preferred course being Physics.

Registration

Registration in the School is less than in 1956-57. In the current year there were 72 students and three partial students as compared with 87 in the previous year. In Education there were 58 students—an increase of 21. Again we had one student from Arts. There was a decrease in the number from the School of Nursing with 130 this year and 147 in 1956-57. In Dentistry there were 24. There has been a marked decline in registration in Household Economics in the Summer Session with an attendance of 78 as against 147 in 1956. The total number of students enrolled in courses in our School during the year was 358.

Staff

There were four Sessional Instructors in 1957-58: Mrs. Helen Bentley, Mrs. Edith Whidden, Mrs. Florence Wilson, and Miss Josephine Penman. The School hopes to have four permanent members on the staff in the coming year, and two sessional instructors. The two dietitians in residence in the University dining hall—Miss Joyce Lister and Miss Melvina Gowda—will not be returning. Miss Grace Duggan attended the Canadian Council on Nutrition Conference in Ottawa in October. Miss Josephine Penman conducted a panel discussion at the Canadian Dietetic Association Convention in June. The Career Days at which each member of the staff spoke were more numerous this year and the groups were larger.

Graduate and Student Appointments

Graduating students this year have shown an unusual variation of interest in choosing professions. Six graduands have been accepted as dietary internes and six have applied for admission to the Faculty of Education. Seven students

will be employed without extra training; of these, five are in extension and one in teaching. Sister Philippine is to head a school for Homemakers in Saskatchewan. Five students are considering graduate work in American universities, Miss Gweneth Nelson has a fellowship at Washington State College. Two graduates will soon have completed the requirements for Doctors' degrees—Miss Elizabeth Empey and Miss Mary Morrison. Miss Morrison has been granted a General Foods Corporation Fellowship for research to continue her work at the University of Wisconsin.

Report of Dean W. Scott Hamilton of the Faculty of Dentistry

In recent years there has been a falling off of applicants for Dentistry, but this year showed some slight improvement. Judging by the number of applications at present in the Registrar's Office, it would appear that there will be many more qualified applicants for the next session. It has been our policy to require a 65% average and only in a few cases has it been necessary to fall below that figure and then, by not more than 2%. Recently, there has been an increase in the number of applications received from Eastern Canada and the United States. These are considered only when they have some special reason for wishing to study here and if they have an exceptionally high pre-professional record. There is one man from Ghana, in the pre-professional year in Arts and Science, who was accepted following a request from Dr. Davy, who has taken a special interest in these people.

The Degree of Doctor of Dental Surgery will be conferred upon 29 regular candidates in addition to one European graduate. This man was originally from Czechoslovakia and escaped prior to the war. Since that time he has been in England and now wishes to make his home in Canada.

We now have four full-time Dentists on the Faculty, sixteen on the permanent part-time staff and twelve on the sessional staff. Nine new appointments were made as of September 1st, 1957 and there were two registrations. Dr. Quigley has submitted his resignation in order to devote his full time to practice and Dr. Brass has resigned in order to accept a position on the new Faculty of Dentistry at the University of Manitoba. We are pleased to have had the opportunity of contributing to that Faculty and to know that this expansion in Dental Education is taking place.

Dr. H. R. MacLean represents this Faculty on the Board of the Alberta Dental Association. He was also elected President of the National Dental Examining Board for the present year. In preparation for expansion of teaching facilities, he made a survey of seventeen Universities between November 9th and December 5th, 1957.

Dr. R. D. Haryett, in addition to teaching Orthodontics, is also attached to the Department of Physiology. He is conducting research on the traumatic movement of teeth and basic oral reflexes in animals. These experiments are being carried out on monkeys.

Dr. C. R. Castaldi published two articles during the past year; one in the Canadian Dental Association Journal, the title of which was "An Analysis of Some Operative Procedures Currently Being Used in Pedodontics"; the other was published in the Journal of Dental Research entitled "Further Studies in the Proximal Contour of Amalgam Restorations". This article was also summarized in Dental Abstracts. He also delivered papers before the following groups; Canadian Society of Dentistry for Children in Toronto; the Alberta Public Health Association; the Edmonton Junior Chamber of Commerce; the

Winnipeg Dental Society; the Washington Chapter of the American Society of Dentistry for Children in Seattle; the Edmonton and District Dental Society. Dr. Castaldi and his associates conducted a five-day postgraduate course. He has received a \$2,000 grant from the Department of National Health and Welfare, to study the dental conditions of children living in Wetaskiwin and Ponoka areas. In addition, \$1,800 was granted to Dr. Castaldi and Dr. James of the Sociology Department, to study the attitudes of the public regarding fluoridation. In preparation for proposed research for the coming session, he paid a visit to Harvard University to study a technique in connection with experimental animals. During the Alumni Homecoming Weekend, the Faculty presented a program and Dr. Castaldi was the main participant. He also prepared a booklet entitled "Effective Methods of Preventing Tooth Decay", which was published and is being distributed by the Department of Public Health, Province of Alberta. He is the Alberta Representative on the Associate Committee on Dental Research of the National Research Council. At the meeting of the International Association of Dental Research in Detroit, he presented a paper on "Bacteremia Associated with Dental Procedures in Children".

Dr. K. A. McMurchy, in addition to teaching, is responsible for the Dental Pathological Laboratory, where specimens are examined for practitioners. A programme for control of Dental Caries is also available.

Dr. McMurchy is engaged in a research project entitled "A Study of Resorption of the Enamel, Dentine and Cementum". A report was presented to the National Research Council in March 1957, which supports the project. He is a co-grantee with Dr. Haryett in the project already mentioned, and also with Dr. R. L. Tegart, who has received a grant from the National Research Council.

A paper by Dr. G. A. Brass entitled "The Application of Basic Principles in the Use of Amalgam" was published in the Illinois Dental Journal. He also appeared before the Edmonton and Red Deer Dental Societies, as well as giving a series of lectures to No. 60 Company, Royal Canadian Dental Corps.

Dr. R. V. Blackmore is in his second year at the University of Rochester Graduate School, where he is working towards his Ph.D. in Biology. He is expected to return to the Faculty for the 1959-60 session.

Five of our Faculty attended the meeting of the American Association of Dental Schools and the International Association on Dental Research in Detroit. The Dean and Dr. MacLean also attended the meeting of the Council on Dental Education of the Canadian Dental Association in Toronto.

It is gratifying to note the plans for extending the Medical Building, which will provide very much needed additional accommodation for teaching and research in this Faculty. Under the leadership of Dr. H. R. MacLean the Faculty should become stronger, not only in the undergraduate program, but in postgraduate and graduate courses as well. It is encouraging to notice the greater interest in research which has developed recently.

Report of Dean H. T. Coutts of the Faculty of Education

I have the honour to present this report of the Faculty of Education for 1957-58. Additional information concerning this Faculty is included in the reports of Dr. A. L. Doucette, Director of the University of Alberta in Calgary, and of Dr. J. W. Gilles, Director of the Summer Session and Evening Credit Program.

Registration

Student enrolment rose significantly in the Bachelor of Education program in both Edmonton and Calgary, in the Junior Elementary program in Edmonton, and in the Evening Credit program. The Faculty maintained active records for 1675 students during 1957-58, 417 of them in the Evening Credit Program, 1144 in full-time undergraduate programs. Nine Ph.D. and nine M.Ed. students were in residence during the year.

Developments during 1957-58

(a) Visitors to the Faculty

Besides the visiting lecturers mentioned in the report of the Division of Education Administration, the Faculty of Education was pleased to welcome during the year Miss May Marshall and Mr. Neil Traylen from West Australia, Saidullah Khan from Pakistan (Colombo Plan), Mr. J. B. Pierce of the Clearing House Division of the Education Department of UNESCO in Paris, and Mr. H B. Majumder of India.

(b) Curriculum

The Bachelor of Education programs, elementary and secondary, were significantly revised during the year. The revised programs will be introduced in September, 1958.

(c) Leave of Absence

In September, 1957, Associate Professor Newton returned from a sabbatical leave spent at the University of Missouri. Professor H. S. Baker, Chairman of the Division of Secondary Education, spent a sabbatical leave in England where he has been pursuing post-doctoral studies on a Garfield Weston Scholarship. Professor T. G. Finn returned on November 1, 1957, after a year spent as curriculum adviser in British Honduras under a UNESCO appointment. During 1957-58 Associate Professor Worth was on leave of absence while following a doctoral program at the University of Illinois.

(d) Staff Changes

On September 1, 1957, Dr. C. C. Anderson, Mr. J. H. M. Andrews, Dr. D .B. Black, and Dr. G. L. Mowat joined the staff in Edmonton with the rank of associate professor. Miss Jean Dey, Mr. A. E. D. Schonfield and Mr. A. F. Smith joined the staff with the rank of assistant professor, Mr. Schonfield and Mr. Smith in Calgary and Miss Dey in Edmonton. Sessional instructors during 1957-58 included Mrs. D. D. Campbell, Miss Mary Crawford, Mr. S. A. Earl, Dr. G. S. Lord, Mr. R. S. Sheppard, and Dr. H. E. Smith. Additional assistance was provided by a number of graduate fellows.

Professor Pilkington was appointed Assistant to the Dean in September, 1958. In this position, Mr. Pilkington shares in organizing and supervising the work of the general office and relieves the Dean of many routine matters related to admission of students and the evaluation of teachers' standing both for educational and salary purposes.

The Faculty of Education notes the retirement of Professor Alberta Hastie from the staff of the School of Physical Education. Miss Hastie, a long-time member of the staff of the Alberta Normal Schools and the Faculty of Education, has made a distinct contribution as a teacher, curriculum maker, and author in the field of health education. This Faculty wishes her well in retirement.

It is with regret, too, that we lose the services of another of our great teachers, Professor Maimie Simpson. Miss Simpson's duties as Dean of Women will in future demand her whole time. Her contribution to the Faculty over many years is her recognized with appreciation.

(e) *Representation at Professional Conferences*

The Faculty was represented at the Western Canada Regional Conference on Teacher Education (Saskatoon), The Conference of Deans and Professors of Education (Ottawa), The National Conference of Canadian Universities (Ottawa), The Canadian Education Association Conference (Fredericton), The Western Great Plains Conference on Exceptional Children (Billings), The International Reading Association (New York and Cleveland), The National Council of the Teachers of English (Minneapolis), The Canadian Association of Education through Art (Toronto).

The Dean served as president of the Conference of Deans and Professors of Education in 1956-57, and in 1957-58 as President of the Western Regional Conference on Teacher Education. In September, he was elected as a director of the Canadian Education Association.

(f) *Graduate Study and Research*

In 1957-58, the Faculty of Education, with the cooperation of the Faculty of Graduate Studies, stepped up the tempo of its graduate programs, especially in school administration and educational psychology. Mr. C. P. Collins of Kindersley, Saskatchewan, was the first student to qualify for the Alberta Ph.D. degree in Education (Administration). The Faculty continues to recognize the assistance provided for its graduate and research programs by the Carnegie Corporation and the W. K. Kellogg Foundation.

The Alberta Journal of Educational Research completed its third year of publication. Under the editorship of Dr. H. E. Smith, this Journal is gaining wide recognition both nationally and internationally.

Divisional Reports

The reports of the four Divisions show more completely the extent and variety of activities in which the staff of the Faculty are involved. The Dean recognizes with appreciation the co-operation and loyalty of the staff of the Faculty of Education in Calgary and Edmonton. This was demonstrated in many activities during the year. Not least of these were the revisions of the B.Ed. programs and the preparation of the briefs presented to the Alberta Royal Commission on Education.

Division of Educational Administration (Dr. A. W. Reeves, Chairman)

In 1957-58 the Division of Educational Administration enrolled its first students in an expanded graduate program which had been introduced in 1956. The preparation of graduate students has become a major part of the work of this Division. This year guidance is being given to over 100 students who are working toward the Master's degree through attendance at Summer Session and the Evening Credit Program. The intra-mural enrolment in the winter session included five candidates for the Ph.D. degree. A beginning has also been made in providing field experience designed to supplement theoretical training in school administration. For example, one Ph.D. candidate interrupted his program to spend a year of internship as the assistant superintendent of schools in an Alberta school division.

During the current year the Division has undertaken, as part of its program of advanced training in administration, a research project on the organization and effectiveness of the composite or comprehensive high school. In conjunction with the project, Dr. Andrews attended the Conference on the American High School held in Chicago. The research project was designed to provide information specific to the Canadian scene as an aid in the development of a relatively new institution in secondary education. There are two phases to the project. The first phase consists of a large number of individual studies investigating particular problems which characterize the composite high school.

The second phase has been named "The Canadian Survey of Composite High Schools". Because of the difficulty of obtaining and interpreting data, an authority on secondary education from each province (Atlantic provinces forming a single unit) was invited to prepare a paper which constituted the survey for his province. The authors were then invited to come to the University to present their papers to the research group. The men who gave papers were: Dr. Alan B. Morrison, Director of Curriculum and Research, Department of Education, Halifax, N.S.; Dr. Arthur Tremblay, Assistant Director, Ecole de Pedagogie et D'Orientation, Laval University, Quebec; Mr. D. E. Pope, Deputy Director of Education, Greater Montreal Protestant Board of Education, Montreal; Dr. L. S. Beattie, former Superintendent of Secondary Education, Department of Education, Toronto; Dr. John Brown, Professor of Education, University of Manitoba, Winnipeg; Mr. H. Janzen, Director of Curricula, Department of Education, Regina; Dr. T. C. Byrne, Chief Superintendent of Schools, Province of Alberta; Mr. H. M. Evans, Registrar and Director of Examinations, British Columbia.

In addition to the Canadian Survey, the research group obtained detailed information on comparable developments in England through a three week visit by Mr. H. J. G. Hearley, Her Majesty's Inspector of Schools, Staffordshire, England.

All members of the Division were involved in a variety of professional activities both provincial and national in scope. Dr. Mowat was the editor of the Canadian Association of School Superintendents and Inspectors' official publication, *The Canadian Superintendent*. He also represented this group at the C.E.A. Conference at Fredericton. During this visit, he, in conjunction with Dr. Reeves, spent time studying local government organization in Nova Scotia and New Brunswick. Dr. Mowat attended the Canadian Conference on Education as a member of the Commission on Finance. Dr. Reeves visited a number of provinces as a part of his work in the development of the graduate program. He participated in the following: Canadian Conference on Education, Canadian Education Association Conference and the Conference of Deans and Professors of Education. This year he is the Associate Director of the C.E.A. Short Course for Canadian Superintendents which is being held at the Ontario College of Education. Dr. Andrews will also attend this course to deliver a paper and serve as a consultant. Mr. Sparby and Mr. Melsness served as consultants at the Department of Education's Annual Conference of Superintendents. Dr. Andrews delivered a paper to this convention. Dr. Reeves and several of the graduate students participated in the Department of Education's Short Course in Administration for newly appointed school superintendents. On request, staff members also attended principals' meetings and zone meetings of school superintendents.

Members of the Division cooperate actively with the provincial Department of Education, the Alberta School Trustees' Association and the Alberta

Teachers' Association in programs and conferences relating to school administration. Dr. Reeves and Dr. Mowat were guest speakers at A.T.A. Conventions. Dr. Andrews is the 1957-58 Director of the Alberta Leadership Course for Principals. Dr. Mowat is presently serving on the Alberta Royal Commission on Education.

Division of Elementary Education (Dr. W. D. McDougall, Chairman)

As in previous sessions the members of the Division were called on to participate in institutes, workshops and conventions. There were 17 centres visited by members of the Division for one or two-day periods. It is heartening to note from the remarks of the superintendents in the Annual Reports of the Department of Education that these in-service programs are beginning to pay dividends in terms of improved instruction and better pupil-learning. Staff members participating in such in-service programs were Miss Caldwell, Miss Dey, Mr. Forbes, Mr. Hampson, Mr. Hodgson, Miss Lampard and Dr. McDougall.

Members of the Division serve on curriculum, textbook, examination and other committees of the Department of Education. The staff members most heavily involved were Mr. Barnett, Miss Caldwell, Mr. Card, Mr. Hampson, Mr. Hodgson, Miss Lampard and Dr. MacGregor.

Consistent with other demands upon their time, staff members have been generous in accepting speaking engagements at Home and School Association meetings. The staff members most in demand by Home and School Associations were Miss Caldwell, Miss Dey, Mr. Hampson, Mr. Hodgson, and Miss Lampard.

In July, 1957, Mr. Worth acted as Director of the second Alberta Leadership Course for School Principals. Miss Lampard as a director of the International Reading Association has attended conferences in New York and Cleveland. En route to these conferences she filled lecturing engagements in Saskatoon, Winnipeg and Toronto. Locally Miss Lampard has been active as a reading consultant, and is conducting a long-range study of the influence of graded instruction in the work-study skills on the achievement of pupils in Grades IV to IX. Mr. Forbes is Director of Research on the executive committee of the Canadian Association for Education through Art.

Mr. Hodgson is completing his two-year term as provincial president of the Alberta Home and School Association. He has directed the activities of this influential organization vigorously and efficiently. As president of the organization he attended the Ottawa Conference on Education, as well as the national and provincial conventions in Vancouver and Edmonton respectively.

Mr. Hampson continues to receive wide recognition for his skill as a photographer of Alberta wild life, and as an eloquent advocate of the conservation of Alberta's flora and fauna. He has under preparation a series of ten filmstrips as classroom aids. During the session Mr. Hampson directed a study of the effectiveness of closed circuit television as a means of multiplying the resources of the elementary demonstration school.

As a Division with very heavy teaching responsibilities few members have had leisure or energy to devote to research and writing. However, Miss Dey completed a primary textbook, *Numbers Tell Their Story*.

Mr. Barnett completed all requirements of his doctoral degree. The degree was conferred by the University of Southern California in early May, 1958.

The Elementary Demonstration School under the capable direction of Mr. Henry Simonson continues as a indispensable adjunct of the Division of Elementary Education. During the 1957-58 session the six teachers taught a total of 260 demonstration lessons. Student teachers are high in their praise of the quality of the teaching they observed in the demonstration school.

Division of Educational Psychology (Dr. G. M. Dunlop, Chairman)

Besides serving as sponsors of four intramural Ph.D. candidates, members of the Division are associated with the supervision of graduate studies at the master's level. All staff members participated in the seminar in educational psychology for graduate students.

Each member of the Division spoke to Home and School Associations. Two gave radio talks. Drs. Clarke and Dunlop addressed the Leadership Course for School Principals. Dr. Dunlop contributed to the CEA-University of Alberta Short Course for superintendents and inspectors of schools. Four members of the Division participated in meetings of the Alberta Association of School Counsellors. Dr. Woodsworth lectured to the Banff Leadership Course for Rural Youth, the Calgary Branch of the Engineering Institute of Canada, and to Supervisors of Nursing.

The staff of the Division served as members of many committees: faculty, university, provincial, national. The last included the Canadian Education Research Council, the Canadian Teachers' Federation Research Committee, and the National Advisory Committee on Educational Research. The multiplication of committees continues to demand a large share of staff time.

In research the Division appeared to advantage. Dr. Anderson is author of a Monograph on "Function Fluctuation" for the *British Journal of Psychology*. Mr. Schonfield had a paper on "Emotion and Learning" accepted by the *British Journal of Educational Psychology*. Dr. Dunlop and Mr. Harper had an article accepted by the *American Journal of Administration and Supervision*. Drs. Clarke, Anderson, MacArthur, Dunlop and Mr. Harper had articles published in *The Alberta Journal of Educational Research*. Dr. Anderson and Mr. Harper are working on correlates of uncertainty. Dr. Black is active on the Articulation Study and the Clover Bar Survey, and is consultant with the Alberta Royal Commission on Education. Dr. MacArthur is active in a study of intelligence tests, as well as in three major studies sponsored by the Commission. Dr. Clarke has written extensively of his Carnegie-sponsored trip to research institutes of the Eastern United States. Dr. Dunlop initiated the Clover Bar Survey and completed, with Mr. Harper, the study of the influence of vanning upon pupils in consolidated schools. He is also continuing his Canada-wide survey of vocabulary, spelling and language. The Division is actively considering the addition of IBM machines to faculty facilities for research.

Dr. MacArthur has completed a survey of research institutes of the American Middle West. Dr. Black travelled to Princeton, New Jersey, to attend a conference sponsored by the Carnegie Corporation, and to Seattle to work with the IBM-650 machine on the articulation study. Dr. MacArthur is on leave for a year as Research Director to the Alberta Royal Commission on Education. Dr. Black has been retained by the Commission to supervise machine processing of data. Dr. Clarke completed his tour of centres of research in the Eastern United States and served as consultant for a workshop at the Western Washington State Teachers' College at Bellingham. Mr. Harper assisted as a coach of the university debating teams. Dr. Clarke attended

the Great Plains Conference on Exceptional Children in Billings, Montana. Drs. MacArthur and Dunlop participated in the Canadian Conference on Education in Ottawa. Drs. Clarke and Dunlop were associated with the Alberta Teachers' Association brief to the Royal Commission on Education.

The following is a breakdown of the cases tested in connection with the Clinic during 1957-58:

Intelligence Tests

Wechsler-Bellevue I	73
WISC	43
Stanford-Binet	41

Nature of Cases

	G. 2-5	G 6-8	G 9-12	University Students
Adjustment	19	14	12	nil
Vocational	—	—	8	—
	19	14	20	
	—	—	—	

Fifty-three university students were tested, but this was purely routine practice testing for our 4 clinic students. All cases referred for counselling were drawn from the public school systems.

Division of Secondary Education (Dr. B. E. Walker, Acting Chairman)

In the absence of Professor Baker, Dr. Walker has been acting chairman of the Division. Dr. Walker also assumed most of the committee responsibilities of Dr. Baker.

During the year a marked increase in the number of students enrolled in the secondary route of the B.Ed. program added considerably to the responsibilities of the Division in course work, student counselling, and supervision of student teaching.

There are at present more than one hundred M.Ed. candidates working in the Division with a view to becoming master teachers in a high school subject field. The staff of the Division was kept busy guiding these graduate students and supervising their research projects. One of the staff members, Mr. Buxton, has completed the research work on his own Ph.D. thesis (Stanford University).

The members of the Division have worked on several important projects affecting the Faculty of Education. Among these were the revision of the B.Ed. programs and the study of the Faculty's space needs. In the Evening Credit Program Mr. Pilkington offered Education 580 (Curriculum Construction) in Edmonton, Mr. Buxton offered English 2 in Camrose, and Dr. Walker offered Education 492 (Philosophy of Education) in Vegreville.

All the members of the Division continued to serve on Department of Education curriculum committees, and on various University and Faculty Committees. Mr. Buxton took Dr. Baker's place as chairman of the High School English Subcommittee.

In extension work the activities of the Divisional staff have been extensive and varied. Mr. Pilkington addressed numerous educational gatherings, including teachers' conventions and home and school meetings. Dr. Walker served as consultant at meetings of teachers of high school French. Mr.

Buxton took an active part in several workshops for teachers of high school English.

According to a recent announcement, Miss M. Simpson will shortly discontinue her part-time teaching duties in the Division of Secondary Education to devote full time to the increasing responsibilities of her position as Dean of Women for the University. Miss Simpson has made a notable contribution in the Faculty of Education as a teacher of English and dramatics. Her services have been much appreciated.

Report of Dean R. M. Hardy of the Faculty of Engineering

The number of undergraduate students in the Faculty during the 1957-58 session was 1134 as compared to 932 and 835 during the past two sessions. Registrations in the Faculty have continued to increase at a rate almost double that for the overall University average.

The graduating class this year includes 161 students in all branches of Engineering which is an increase of 33 students as compared to the previous session. The increased number in the graduating group this year reflects the trend which has been apparent for the past six years for a greater number of matriculating students to enter Engineering degree courses. This same trend has occurred at all of the Canadian Universities.

During the session major revisions were approved for the first and second years of Engineering following an exhaustive study by the Faculty of the current curricula in the light of the changes which have been made in recent years in the high school curriculum of the Province. These changes will go into effect for the 1958-59 academic session. They involve a reduction in time devoted to surveying field work and a lengthening of the academic session by about two weeks. The overall effect will be to permit greater emphasis to be placed on the basic sciences of mathematics, physics, chemistry and mechanics which are so essential as a background for all Engineering work. Despite a slowing down of the general economic activity in the country, the demand for Engineering graduates has continued at a high level again this year. It appears however that the supply has come closer to meeting the demand this session that has been the case for the past several years.

Activity at the graduate level has increased in all of the Engineering departments during the past session. Increased numbers of graduate students have been attracted to the graduate programs and this has resulted in a general increase in the amount of research work which has been undertaken in the Engineering departments. Members of the academic staff of the faculty have also been active in professional capacities. Specialized technical assistance has been provided to both public authorities and industry.

Extension activities of members of the academic staff of the Faculty continued in the form of correspondence, lectures, radio talks and extension courses. A very successful new departure was the offering of a short course in Photogrammetry in cooperation with the Extension Department. This course was exceptionally well received.

In the Department of Electrical Engineering the Contraves network analyser was completed and put into operation and has been continuously employed since November 1957 in network studies for local power companies. Precision instrument checking has also been carried out for the R.C.A.F. and local industry at periodic intervals. High voltage safety testing of rubber gloves has been continued for the local power companies and the Department of

Transport. In cooperation with the City of Edmonton Power Plant investigations into the preparation of the terminals for 14 KV cables were made and resulted in improved techniques being adopted for the elimination of phenomena that would have produced breakdowns. Preliminary investigations have been made into certain system oscillations which occur when the City of Edmonton Power Plant and the facilities of Canadian Utilities Limited are connected to the Calgary Power Company network and work is to be continued on this investigation. Studies assisted by the National Research Council summer associateships were continued into the theory of foundation vibrations with heavy reciprocating mechanical equipment.

In the Department of Mining & Metallurgy two major research projects have been continued. One of these is financed by the Atomic Energy Control Board and is a continuing program concerned with fundamental research in Driessen Cone concentration of ores and its application to the refining of uranium ores. The senior member of the academic staff supervising this program has been awarded the Leonard Medal of the Engineering Institute of Canada for a paper given in 1957 reporting on this project.

The second project is financed by the Defence Research Board and is in the field of metallurgy dealing with fundamental research into alloys of titanium. A post doctorate research fellow financed by the National Research Council has been engaged full time during the past academic session on this project. Research work in the field of physical metallurgy has been expanded to a considerable degree during the past session and substantial financial assistance has been forthcoming from industry to assist in specific aspects of these programs.

In the Department of Chemical and Petroleum Engineering new precision temperature measuring equipment has been acquired and other equipment for research has been approved. Substantial progress has also been made in expanding the equipment in the Petroleum Engineering laboratories. Work on long-term fundamental research projects has been continued in cooperation with the Alberta Research Council. In connection with these programs five M.Sc. theses were completed during the past session. The subjects dealt with in these are:

1. Phase Behavior of the Methane-Carbon Dioxide-Hydrogen Sulfide System.
2. The Rheological Properties and Pipeline Flow of Barytes-Water Suspensions.
3. Horizontal Pipeline Flow of Oil-Water Mixtures.
4. The Upwards Vertical Flow of Air-Water Mixtures including the Effect of Diameter on Flow Pattern, Holdup and Pressure Drop.
5. Pyrolysis of High BTU Natural Gases.

In the Department of Civil Engineering the expansion of the graduate programs into the field of Highway Transportation was successfully inaugurated. A total of 25 graduate students were registered in the Department; which is almost double the maximum in any previous year. Six M.Sc. thesis projects were completed during the session. The titles of these are;

1. Special Problems in Stability of Slopes.
2. A Study of the Dynamics of Machine Foundations.
3. Foundation Settlement Problems at the Aluminum Company of Canada Smelter, Kitimat, B.C.

4. A Study of the Behaviour of Varved Clays Relative to the Flow Slides of Steep Rock Lake, Ontario.
5. An Investigation into the Strength Reducing Effects of Plain Scarf Joints in Laminated Wood Beams.
6. A Further Investigation into the Engineering Properties of Muskeg.

In addition to the above noted projects work was continued actively with special problems in the field of Hydraulics and Hydrology; special projects in the field of Applied Mechanics and Concrete Materials; problems in the field of Strength of Materials and Metallurgy; and specialized research in Applied Mechanic dealing with the stability of thin shells.

Financial support for certain of these projects conducted in the Department of Civil Engineering has been provided by the Research Council of Alberta, The National Research Council, the Canadian Institute of Timber Construction, Imperial Oil Limited and the Prairie Road Builders Section of the Canadian Construction Association. Three major scholarships were provided at the graduate level in the field of Highway Transportation through the auspices of the Canadian Good Roads Association.

Report of Dean A. G. McCalla of the Faculty of Graduate Studies

Graduate students are now taking a steadily increasing amount of the time and resources of many departments. The importance of the administration involved in graduate work has been recognized by the establishment of the Faculty of Graduate Studies to replace the former School. The new Faculty has adequate and convenient accommodation in the Administration Building and is in a position to give graduate students and departments improved service. The Council of the Faculty was expanded during the past year to give representation to most departments offering a substantial amount of graduate work. The full-time administrative unit has made it possible to modify many of the administrative procedures of the Council.

The most significant development within the Faculty has been the large increase in the number of Ph.D. candidates. In 1955-56 there were nine such candidates registered, in 1956-57 there were 18 and in 1957-58, 36. Five students completed Ph.D. requirements this spring. Present applications and admissions indicate that there will be more registrations and more graduations in the coming year. Three more departments have been authorized by Faculty Council to offer Ph.D. programs. Some applications have had to be refused because the departments concerned are not yet prepared to offer advanced graduate work. A large number of applications from foreign students, particularly from India and China, have also had to be refused because the departments in which the student wished to work cannot accept all who are academically eligible.

It has become increasingly evident that graduate studies can be carried on in most fields only if financial assistance is available to many of the potential students. It is hoped that a much more adequate scholarship program may be gradually instituted.

The total number of students registered during at least one session increased from 334 in 1956-57 to 420 in 1957-58; (total registrations were 477 but 57 students were registered for more than one session). Of these 420 students, 285 were registered during the regular academic session. Although some were registered for "thesis only" and 17 were taking only extramural courses, it seems likely that the number of full-time or essentially full-time

graduate students was larger than in any earlier year. The distribution of students working towards degrees during the winter session was as follows for the last two years.

Degree	Number of Students	
	1956-57	1957-58
Master of Arts	34	48
Master of Education	70	55
Master of Science	72	111
Doctor of Philosophy	18	36
Total	194	250
Provisional and Special	45	35

There are many students who have started programs of study but who are not included in these totals since they are not registered this year. It is difficult to estimate the number involved since many of those for whom the Faculty has files were originally registered as "Special" students and were not admitted as candidates for degrees. It seems clear, however, that a substantial number of the currently "inactive" students will eventually complete programs for degrees. In 1959 the regulation setting a six-year time limit for completing a degree program will have been in effect for six years, and the Faculty proposes to adopt a more rigid enforcement policy after that date.

The evening credit program attracted 44 registrations from graduate students. If a suitable course was available locally, this program apparently induced some teachers to begin graduate work. It remains to be seen whether such programs, some of them started by individuals who have been out of University for many years, will be effectively pursued. Already there are indications that some of the students have found the work too heavy.

As usual, most of the 148 summer session registrations were from teachers and most were in M.Ed. programs. This is likely to be even more evident in future years since several departments have decided to discontinue the practice of offering M.A. degrees on the basis of Summer Session residence only. This has resulted from a thorough review of residence requirements and the general stiffening of the interpretation of these requirements by these departments.

Starting in 1958, graduate students who carry on full-time research for all or part of the intersession (May-September) will be formally registered with the Faculty for the period covered. It will thus be possible to give residence credit for the intersession, which in turn should assist many students in meeting residence requirements.

The graduate programs in two of the Divisions in Education have attracted applicants from all parts of Canada. Many excellent students are now candidates for degrees and the first Ph.D. in Educational Administration and Supervision is being awarded this spring. On the other hand, the Education Divisions have by far the largest number of students whose programs are carried over a long period of years. It is possible that many of these students, who are not registered at present may not complete their degree work.

I wish to express my personal thanks to all those with whom the Faculty works for their co-operation and tolerance during this first year of the new Faculty's existence.

Report of Dean W. F. Bowker of the Faculty of Law

Academic

The number of students has varied little in recent years.

The year passed satisfactorily. A group of Alberta students and their confreres from other western law schools met at the University of Saskatchewan on the week-end of January 24. The beginnings of a Western Canadian Law Students Association were made.

As usual, the students of this faculty were prominent in campus affairs. Three of the four debaters who won the McGoun Trophy for Alberta were law students.

Staff

With the return of Andrew Royden Thompson as Associate Professor, there are still four members on the full-time staff. Practising members of the profession from Edmonton continue to give valuable assistance as sessional instructors.

Members of the full-time staff attended a number of meetings: Assistant Professor Sherbaniuk, the Tax Foundation at Toronto; Professor Alex Smith and W. F. Bowker, the Canadian Law Teachers Association at Ottawa and the Association of American Law Schools at San Francisco. W. F. Bowker was chairman at a discussion on Bills of Sale and Conditional Sales at the Canadian Bar Association Meeting at Banff and again before the Alberta section of the same association at Edmonton. Associate Professor Thompson presented a paper on certain aspects of oil and gas law at a meeting at Calgary, sponsored by the Department of Extension and the Western Canadian Petroleum Association.

Library

Accessions to the Law Library have been steady, and for student purposes it is more adequate than ever before. The students made great use of the law reading room. Its administration is capably handled by Mr. Denis Noden, the librarian.

Curriculum

For a number of year the Faculty has had under study a revision of the curriculum. Some, at least, of the proposed changes can be put into effect in the fall of 1958. In formulating the revision, the faculty has had in mind the objectives of legal training: to impart information on legal rules and doctrines and their development and a knowledge of the judicial and legislative processes; to teach the techniques of legal reasoning and the ability to form a defensible opinion; to prepare the student to apply what he has learned; to expose the student to the main currents of legal thought; to make him aware of the role of law in society; and to inculcate in him a sense of professional responsibility.

The Law Society

The relation between the faculty and the Law Society continues to be close and cordial. The Dean is always invited to attend meetings of the Benchers of the Law Society and is always present when legal education is under discussion. He continues to work with a committee of the Benchers that for several years has had under study, at the request of the provincial government, the revision of the land titles law.

The Law Society continues to demonstrate a deep interest in the work of the faculty and recently made a generous contribution of \$200 towards the forthcoming meeting of the Association of Canadian Law Teachers here in June.

One prominent member of the profession, Mr. Ronald Martland, who for a number of years was a sessional instructor and who long has been a member of the Law Faculty Council was recently appointed to the Supreme Court of Canada. He is the first appointee ever to come from Alberta. The Board of Governors has happily appointed him Honorary Professor of Law.

Placement of Graduates

The demand for graduates as articulated students still far exceeds the supply. The profession has expanded steadily in Alberta since the war, and a substantial number of graduates from other law schools take out their articles here and then become members of the Alberta bar.

Report of Dean J. W. Scott of the Faculty of Medicine

Sixty students registered for the freshman medical class, but for various personal reasons 4 of these have already dropped out, leaving us a total of 56 students in first year who would be expected to take the final examinations. It is probable that, as in past years, a certain percentage of these will not be successful in the final examinations since some of our students were admitted with mediocre premedical records.

The fact that we had to take students with relatively poor records is again a reflection of the dearth of good applicants for Medicine which is being felt all across the United States and Canada at the present time.

At the spring and fall Convocations 46 graduands received the degree of Doctor of Medicine and one other person received the degree of B.Sc. in Medicine.

Major staff changes in the past year include the resignation of Dr. Stanley Smith, as Head of the Department of Psychiatry, and the appointment of Dr. K. A. Yonge, to succeed him. Dr. C. N. Iland, Associate Professor of Bacteriology, resigned and to date there has been no replacement for him. New members of staff include the following: Dr. E. Thackeray Pritchard, Assistant Professor of Biochemistry; Dr. Norman Gillis, Assistant Professor of Pharmacology; Dr. G. O. Bain, Assistant Professor of Pathology; Miss Sheila Toshach, Assistant Professor of Bacteriology; Dr. W. C. Taylor, Assistant Professor of Pediatrics; Dr. R. C. Harrison, and Dr. R. A. Macbeth, Associate Professor of Surgery; Dr. J. A. L. Gilbert, Associate Professor of Medicine.

It gives me great pleasure to report that Dr. Lionel Everett McLeod has recently been awarded a Markle Scholarship, of a value of \$6,000 per year for five years. Dr. McLeod will be Lecturer in the Department of Medicine.

The various appointments in the clinical departments just listed are all on a full-time or geographic full-time basis, which means that these men, who are all teachers of proven ability, will be able to devote a considerable portion of their time to teaching medical students in the clinical subjects. This will greatly strengthen our teaching program, and will permit changes in the curriculum for the clinical years which will be commented on shortly.

I am pleased to report that the addition to the Provincial Laboratory which will house our departments of Pathology, Bacteriology, and Preventive Medicine, is progressing well ahead of schedule and it is hoped that it will be ready of occupancy for the fall session. The new service wing of the

University Hospital is progressing well, with the erection of structural steel now completed. This wing will provide Out-Patient and Research facilities and offices for some of our full-time clinical staff. The addition to the Medical Building is at the active planning stage. It is hoped that a start may be made on this wing in 1958.

It is with pleasure that I report that the other teaching hospitals in and around Edmonton continue to supply facilities for clinical teaching in a most co-operative manner.

The number of graduate students proceeding to an advanced degree in all departments is 8, and these are enrolled in the Faculty of Graduate Studies of the University.

I am pleased to report that our Committee on Graduate Education continues to expand its activities so that we now have 15 trainees in training, with 16 more accepted for start of training on the 1st of July. Up to the present time 37 trainees have completed their training, and most of these have passed either the Fellowship or Certification examinations of the Royal College of Physicians and Surgeons of Canada.

Twenty-three of those who have completed their Graduate Training are practising in Alberta. It gives me particular pleasure to report that eighteen of these are on the staff of our Faculty of Medicine. This means that already our Graduate Education Programme has reaped rich dividends in providing us with excellent teachers to carry on the training of our medical students.

I believe it is of interest that we, this year, received forty-one applications for positions in our Graduate Training Programme. As I noted previously only sixteen of these could be accepted because of limitations of facilities. The large number of applicants is an indication of the esteem in which our programme is held throughout Canada.

Our Committee on Continuing Medical Studies continues to provide training for those Doctors in practice in this Province, who wish to increase their knowledge without taking a long period of time from their practices. This training falls into three types:

1. Our Annual Refresher Course, which will be held on April 28th to May 2nd this year.
2. Travelling teams of teachers from our staff visit various Alberta centres to discuss latest developments with the practitioners of the area.
3. Short courses of two or three days duration covering various topics that are being presented at the University.

It might be added that this last type of teaching has proved very popular with the medical profession.

Our Human Hereditary Counselling Service has, in the 10 months since its inception, been consulted by Alberta Doctors 30 times. This number compares favorably with the number of consultations at Hereditary Counselling Services in other centres.

The revision of the curriculum of the Faculty of Medicine continues in a most satisfactory manner. The new second year is just being completed for the first time and has in general proved to be very satisfactory. The curriculum for third year has now been completely worked out; the main changes being a great reduction in the amount of didactic teaching, and an increase in the amount of time the students spend at the bedside. Students in this year will act as clinical clerks, and as such must have complete knowledge of the cases

to which they were assigned, including day to day observations on the progress of the disease.

The office of the Dean of Medicine would like to acknowledge at this time its appreciation of the co-operation of all members of the staff in making this major change in curriculum possible. While we will be using the full-time clinical staff to an increasing extent in the coming years, the increase in small group teaching makes the role of the part-time clinical staff more important than it has ever been. We will continue to depend to a very large extent on these practitioners who give so freely of their time and ability, with very little monetary return.

Over the past few years the research activities of this Faculty have expanded in a remarkable manner. With the acquisition a few years ago of the McEachern Research Laboratory, facilities became available for our clinical staff to do research which previously they had been unable to do. At the same time, facilities and funds for clinical research at the University Hospital have been made available and are being used by various members of the clinical departments. The basic science departments carry on a load of research which is only limited by the facilities available to the departments at present, and the teaching load of the staff members concerned. In the past four years two members of our Department of Surgery—Dr. R. C. Harrison, and Dr. William Lakey, have each received the Gold Medal of the Royal College of Surgeons of Canada, for outstanding basic surgical research. The members of the Cardiovascular Unit, at the University Hospital, have already received nation-wide recognition for their work, and they continue to do research on the various aspects of cardiac disease. Outside organizations, which must be satisfied that the research they are supporting is sound, have allocated funds totalling \$158,065.00 for this purpose to this Faculty for the 1958-59 session. These organizations include the following:

National Research Council	\$ 55,450.00
National Cancer Institute	18,540.00
Defence Research Board	14,675.00
Department of Health and Welfare	20,000.00
Muttart Foundation	6,000.00
Markle Foundation	6,000.00
Infant Operations Trust	19,600.00
Nilevar Trust	1,700.00
Canadian Life Insurance Officers Association	4,500.00
Ciba Foundation	3,200.00
Lederle Company	1,200.00
Others	7,200.00
	\$158,065.00

The fact that this much assistance comes to this Faculty from outside sources is attributable to the research facilities provided by this University, and the University Hospital, and to the encouragement given to research by the administration of this University, and the administration of the University Hospital. However, a major and often overlooked factor is the desire of the staff to participate in some form of research in spite of teaching and administrative commitments which are in general quite heavy. Our staff carry out their research activities whenever they can find time and without regard to the number of hours that must be spent to achieve results.

The list of publications will show a wide variety of problems at present under investigation by our staff.

Our staff continues to take an active part in scientific meetings in all parts of the country and beyond its borders. They have acted as officers or members of Council of the following organizations:

The Association of Canadian Medical Colleges
The National Cancer Institute
The National Research Council
The Defence Research Board
The American College of Physicians
The American College of Surgeons
The Royal College of Physicians and Surgeons of Canada
The Canadian Medical Association
The Medical Council of Canada.

The following honors have come to members of our staff in the past year:

1. Dean John W. Scott, has been elected President of the Royal College of Physicians and Surgeons of Canada.
2. Professor H. E. Rawlinson, has been elected Vice-President of the National Cancer Institute of Canada, and President of the Edmonton Academy of Medicine.
3. Dr. Lionel Everett McLeod, has been named Markle Scholar in Medical Sciences commencing July 1st, 1958.
4. Professor W. C. Mackenzie, of the Department of Surgery, has been awarded first prize for a motion picture presented to the American College of Surgeons in 1957.

The following distinguished speakers have visited our Campus and addressed students and staff as well as taking part in various ward rounds, discussing mutual problems with staff members and providing us all with the stimulus that such men are able to bring:

Dr. U. S. Von Euler, Professor of Physiology, Karolinska Institutet, Stockholm, Sweden.

Dr. O. Muhlbock, Director, Experimental Cancer Division, Leeuwenhoek-Huis, Amsterdam, Holland.

Dr. George Miller, Associate Professor of Medicine, University of Buffalo.

Dr. Charles Wells, Professor of Surgery, University of Liverpool.

Dr. J. Z. Young, Professor of Anatomy, University College, London, England.

Dr. John Bruce, Regius Professor of Surgery, University of Edinburgh.

Dr. W. M. Arnott, Professor of Medicine, Birmingham University (Sims Travelling Professor).

Dr. J. P. Gray, of the Parke Davis & Company, Detroit, Michigan.

Sir Walter Mercer, Emeritus Professor of Surgery, University of Edinburgh.

Dr. R. F. Farquharson, Professor of Medicine, University of Toronto.

Dr. N. S. Assali, Department of Obstetrics and Gynaecology, University of California Medical Centre, Los Angeles, California.

Report of Professor McClure, Director of the School of Nursing

I have the honor to present the report of the School of Nursing for the year 1957-58.

During the past year the School of Nursing has gone through a period of re-organization. New staff appointments were made as follows:

Ruth McClure, Director of the School. September, 1957.

Patricia McMillan, Assistant Professor of Nursing, responsible for the courses in Teaching and Supervision. August, 1957.

Margaret Campbell, Assistant Professor of Nursing, responsible for the courses in Public Health Nursing. September, 1957.

Marion Jenner, sessional lecturer in Advanced Practical Obstetrics. September, 1957 to February, 1958.

On April 1, 1958, Miss Marguerite Schumacher assumed the position of Advisor to Schools of Nursing. In this capacity, Miss Schumacher will be responsible for assisting Schools of Nursing throughout the Province in the further development of Nursing Education.

The total enrolment of the school has increased from 144 to 156. This year, nine students enrolled in the first year of the degree course in Calgary. There has also been an increase in the number of requests for admission to the Certificate course in Advanced Practical Obstetrics. Due to limitations of clinical facilities, the enrolment in the course has been somewhat limited. Plans are underway to offer this five-month course twice a year.

The curriculum committee, with representatives from the University of Alberta Hospital, the Calgary General Hospital and a member presently engaged in Public Health Nursing, recommended changes in some of the courses offered in the final year of the degree programme and in the diploma programmes. These changes will go into effect September, 1958. With the additions to the staff, it is now possible to have more of the courses taught by members of the School of Nursing. The changes in curricula were planned with a view to gaining more continuity, avoiding unnecessary repetition and adapting the courses to better meet the needs of nursing.

All members of the staff have taken advantage of opportunities to contribute toward nursing education by presenting papers and participating in the following extramural activities:

Alberta Civil Defence course for Nurses

Public Health Nurses' Conference, Alberta Department of Public Health Education Institute, Indian Health Services

Sub Committee on Nursing Education of the Alberta Association of Registered Nurses.

Annual Convention of the Alberta Association of Registered Nurses

Staff Education of instructors of School for Nursing Aides

Farm Young People's Week

Canadian Red Cross Society Home Nursing Classes and Junior Red Cross Students' Institute.

It is also encouraging to note that members of the staff are serving as officers and committee members of professional associations, both local and provincial.

In January, 1958, at the request of the University Committee on Nursing Education Miss McMillan acted as Chairman of the visiting committee which carried out an investigation of one of the Schools of Nursing in Edmonton. The investigation of a situation involving the loss of teaching personnel was

deemed necessary in order to safe-guard the education of the students in this school. A full report of the findings and recommendations was presented to the Committee on Nursing Education.

Under the auspices of the Rockefeller Foundation the director of the school visited several University Schools of Nursing in Eastern Canada and the United States during the summer of 1957. These visits provided an opportunity of comparing different types of programmes and of discussing with other directors some of the current thinking on Nursing Education. It was a most enlightening experience which has been helpful in planning for improvements in the School of Nursing.

In September, 1957 the Western Branch of the Canadian Conference of University Schools of Nursing held a meeting in Banff at which members of the Alberta school took an active part.

The enthusiasm and effort on the part of all members for bringing about improvements in the school has been most gratifying. The co-operation of the personnel of the hospitals associated with the School of Nursing; the interest and understanding of members of the Faculty of Medicine from other departments of the University is greatly appreciated.

Report of Dr. J. R. Fowler, Director of the School of Physiotherapy

It is gratifying to report that a second graduating class has added to the number of qualified physiotherapists in filling vacancies in hospitals and rehabilitation institutions throughout Western Canada.

In November, 1957, fifteen successful students attended their own special convocation which was held in the Students' Union Building. The official party consisted of the Chancellor of the University, Dr. Scarlett, who presented the diplomas; the President, Dr. A. Stewart; the Dean of Medicine, Dr. Scott, who gave the convocation address; Assistant Professor Nancy Rendell; the Registrar, Mr. Cairns and the Director of the School of Physiotherapy. Miss Nancy Pearce received the Canadian Physiotherapy Association book prize for attaining the highest standing in the final year.

There are now sixteen students enrolled in the second year out of the original class of 20; and first year has the largest enrollment to date of twenty-eight students. There was also one special student enrolled who received tuition in electrotherapy.

The teaching load has been greatly eased by the acquisition of Mr. Faulds, formerly of Glasgow University School of Physiotherapy, who joined the staff in January, 1958.

An excellent display of physiotherapy technique was shown to a large number of guests who attended "Open House" on Varsity Guest Weekend. The students won the Red Cross Blood Transfusion trophy for the third time.

An article entitled "Clinical Reflex Facilitation" written by Miss Rendell, Assistant Professor at the School, appeared in the June issue of The Journal of the Canadian Physiotherapy Association.

In the light of the increasing interest in the field of rehabilitation many vacancies continue to exist in the four Western provinces; it is encouraging to feel that this school is contributing a great deal in supplying therapists to many of the institutions.

Report of Dean M. J. Huston of the Faculty of Pharmacy

Academic

The enrolment in the Faculty was the highest in its history. Approximately one-third of the students were girls. Three students undertook work towards advanced degrees during the term.

The demand for graduates in pharmacy greatly exceeds the supply, particularly in the case of those with advanced training. It was, however, necessary to apply a quota in the first year of the course because of limited accommodation. Such restrictions will continue to be necessary until the completion of the planned enlargement of facilities.

Two new awards have been made available:—the Pfizer Research Award of \$300.00 for an outstanding student undertaking graduate work, and the Cardston Pharmacy Scholarship of \$100.00 for a student of outstanding merit entering first year pharmacy.

Nine members of the instructional staff, full and part-time, visited the College of Pharmacy, University of Saskatchewan for an inter-departmental conference in February. Two days were spent in discussion of teaching and research.

Associate Professor Anderson was away during the year on sabbatical leave undertaking work towards the Ph.D. degree at the University of Washington. Mr. K. M. James and Mrs. M. A. Bell assisted with his classes.

Associate Professor Riedel lectured to the Public Health Nurses on the abuses of narcotic drugs and their control.

Extension and Other Activities

The Faculty again took part in a refresher course in conjunction with the annual convention of the Alberta Pharmaceutical Association in Calgary.

Bulletins on recent advances in pharmacy were prepared and distributed by the Alberta Pharmaceutical Association to all practising pharmacists in the province. In addition many letters and phone calls seeking for professional information were answered by the staff.

A series of refresher course lectures was presented at eight centres throughout the province during the Fall. Meetings were held at Edmonton, Vermilion, Red Deer, Stettler, Camrose, Calgary, Lethbridge, and Medicine Hat. Approximately 300 pharmacists attended.

Dr. Murray continued as Editor of the Bulletin of the Canadian Conference of Pharmaceutical Faculties. He has been active in plans for the formation of poison control centres in Alberta and has been named a member of the Poison Control Advisory Committee of the Department of Public Health. He has continued his work as a Cubmaster and as a member of the executive of the Edmonton Council of Home and School Association.

Dr. Riedel was elected vice chairman of the Canadian Conference of Pharmaceutical Faculties and has remained as chairman of the Teachers' Conference of that organization. He again served as an abstractor for the Physiological, Biochemistry and Pharmacology section of *Excerpta Medica*. He continued as Commanding Officer of the University Reserve Squadron. Dr. Riedel carried out research of a biochemical nature using radioactive isotopes at the Carfield Experimental Station for the Defence Research Board during the summer of 1957. Two secret papers were prepared from this work.

Dr. Huston continued as Editor of the Scientific Section of the Canadian

Pharmaceutical Journal and as a member of the Editorial Advisory Board. He completed his year as Lieutenant Governor in the Western Canada Division of Kiwanis.

Staff members presented papers to professional societies, service clubs and similar groups as follows:—Dr. Riedel 6; Dr. Murray 5; and Dr. Huston 23.

Research

Mr. K. M. James began work towards a Ph.D. degree in the field of isotope tracer biochemistry. This is the first time a student has undertaken Ph.D. work in any pharmacy college in Canada. Two M.Sc. candidates also pursued studies in the department.

Mr. G. A. Robinson, a third year student, won the E. L. Woods Memorial Prize in Pharmacy. This prize is given for outstanding research work by under-graduates and is open to all senior pharmacy students in Canada.

Dr. Riedel continued his research in the use of isotopes in biochemical studies on the prostate gland with zinc⁶⁵ and studies of phosphorus metabolism of the adrenal gland with phosphorus³². A study using sulphur³⁵ labelled sulfanilamide was also carried out. Dr. Riedel presented a paper on the Qualitative and Quantitative Estimation of Sulfonamide mixtures by paper Chromatography at the Research Conference of the Canadian Foundation for the Advancement of Pharmacy and the Canadian Conference of Pharmaceutical Faculties in Montreal.

Dr. Murray undertook further investigations on the effects of anti-hypertensive drugs on experimental hypertension in rats.

Dr. Huston investigated the effects of certain drugs on the respiration of brain and liver of rats. He organized and acted as chairman of the research meetings of the Canadian Conference of Pharmaceutical Faculties. He presented a paper on Effect of Antihypertensive Drugs on the Tissue Respiration of Normal and Hypertensive Rats at the Pan American Congress of Pharmacy and Biochemistry.

Other problems being investigated in the department included:—paper electrophoretic examination of atropine and of sulfonamide; effect of various drugs on barbiturate anaesthesia; chemical assay methods for antibiotics; effect of exercise and drugs on the emptying time of the rat stomach; effect of certain drugs on the rat heart beat; effect of cortisone on toxicity of certain drugs; correlation of interfacial tension, viscosity and stability in emulsions; polarographic determination of Vitamin B Complex factors.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

This academic year of 1957-58 is the first in which the new degree of Bachelor of Physical Education, B.P.E., will be conferred. Fourteen students are eligible for this degree.

It is with a great deal of regret that the School announces the retirement of Miss Alberta Hastie. Miss Hastie has given many years of service to the University and is recognized as one of the leading school health educators in Canada.

Four members of the School Staff are directly involved with the Canadian Association for Health, Physical Education and Recreation as members of the executive. Dr. M. L. Van Vliet is President, Dr. W. D. Smith is Chairman of

Publications, Miss P. Austin is Chairman of the Speakers' Bureau and Mr. A. Affleck is Editor of the Journal.

Extension Services. The personnel of the School continue to be extremely busy in community, provincial and national affairs. Active contributions have been made in the form of clinics, demonstrations, committee work, lectures, workshops and consulting. Some of the specific groups served include the Town Planners Association, the Boy Scouts, the Y.M. and Y.W.C.A., the Alberta Recreation Bureau, the St. John Ambulance, the Red Cross Association, various Alberta School Boards, the Department of Education, the British Empire Games Committee and the A.A.U. of Canada.

The B.P.E. Degree. A total of sixty-three students enrolled in the School of Physical Education during the 1957-58 academic year. Fifty-seven students were in the Bachelor of Physical Education program and six students were registered in the Bachelor of Education (Physical Education) program. One first year student was enrolled at the University of Alberta at Calgary. Two students withdrew during the year leaving a total of sixty-one currently registered.

Scholarships and Fellowships. The following two awards to students in the undergraduate program merit special attention:—Teaching Fellowship—University of Illinois (1957-58) Richard Holmes, \$1,000.00; Teaching Fellowship—University of Oregon (1958-59) Jack Leavitt, \$1,200.00.

Faculty of Education Students. The increased enrollment in first year necessitated the employment of some part time staff. Four regular members of the Staff and two sessional instructors conducted twelve sections of Health Education and fourteen of Physical Education for a total of over five hundred students. For efficient and productive teacher education these sections should all be reduced from an average of forty-five students to an average of twenty-four students.

Service Program. This course, required of all medically fit first year students in the University had a total registration of over 900 students. The present facilities have become completely inadequate.

Intramural Sports. This program has completely saturated present facilities and cannot be expanded until the new building is available. Participation results follow.

WOMEN

	1956-57	1957-58
Number of Sports	8	10
Number of Teams	65	72
Number of Games Played	240	268
Number of Participants	875	920

MEN

	1956-57	1957-58
Number of Sports	11	12
Number of Teams	142	161
Number of Games Played	698	732
Number of Participants	2320	2530

With the almost complete loss of playing fields future intramural programs will be almost exclusively confined to indoor activities.

Intercollegiate Athletics. Men students at the University participated in the following W.C.I.A.U. athletic activities: basketball, hockey, badminton, volleyball, swimming, wrestling and curling. Affiliated athletic clubs represented the University in local and regional competition in skiing, boxing, fencing and judo. The annual golf and tennis tournaments with other Western Universities were cancelled because of inclement weather early in the fall.

The women competed in badminton, basketball, curling, volleyball, figure skating, and swimming.

Ten teams representing the University won W.C.I.A.U. championships to climax what can be considered one of the most successful seasons on record in intercollegiate athletics at Alberta. The following trophies were won in W.C.I.A.U. competitions:

MEN

The Rawson Trophy for wrestling supremacy
The Rigby Trophy for the basketball championship
The Hardy Cup for the hockey championship
The O. J. Walker Trophy for badminton
The U. of M. Alumni Volleyball Trophy
The P. S. Warren Trophy for cross country running
The Hamber Cup for which the University of Alberta and the University of British Columbia compete annually in hockey was won by the University of Alberta for the seventh year.

WOMEN

The O. J. Walker Trophy in badminton
The Cecil Race Trophy in basketball
The Sam Landa Trophy in volleyball
The Feldsted Trophy in swimming

At the annual W.C.I.A.U. meeting held in Saskatoon in April the University of British Columbia was re-admitted into the conference, but because of previous commitments will not re-enter W.C.I.A.U. events until the fall of 1959.

The decision of the University of British Columbia to re-enter the conference and the construction of the proposed physical education facilities on the campus will bring about a much improved inter-collegiate athletic program at Alberta in the future.

General. Physical education can and should make several unique contributions to the undergraduates at the University of Alberta. It provides professional courses in the different phases of teacher education and directing and supervising various programs of recreation and fitness, and there is no greater potential for the improvement of emotional stability and physical well-being than a sound program of physical education and recreation available to all undergraduates.

Report of Dr. A. L. Doucette, Director, Calgary

1. General Items

(a) Student Enrolment:

During the year 1957-58 there was again an increase in enrolment among the overall day-time students enrolled at Calgary amounting to 10% - 12%

over the figure of 1956-57. With the introduction of 60 Engineering students in the fall of 1957 we find the classrooms and the general physical plant and parking areas taxed to the limit. With the addition of late afternoon classes and Evening Division for credit courses, during which time the building facilities on the North Hill are made use of, the University of Alberta in Calgary has a total of some 1,000 persons who are taking courses during a winter session.

(b) *Grounds and Premises:*

The parking facilities for students are totally inadequate. Bicycle racks are no longer used and students come to class in cars or by bus, or on foot. Within the premises we have been able to retain one room for a ladies' Wauneita room lounge and one room for a men's smoking room lounge. The latter is the area which was once allocated for a book store till mid-October and when the bookstore operation folds up the room is converted into a men's lounge. We shall not ask for additional lockers to accommodate engineering students because there is no available space in the existing building for additional lockers.

(c) *Closing Exercises:*

These ceremonies were held on April 10th, 1958 in the Southern Alberta Jubilee Auditorium with over 1,500 people in attendance. A noon luncheon was held in the basement of the Auditorium and a tea also in the basement after the conclusion of the Exercises. Visiting officials from Edmonton included Vice-President Walter Johns, the Dean of Arts and Science, Dr. D. E. Smith, and the Dean of the Faculty of Education, Dr. H. T. Coutts. Dr. T. C. Byrne, the Chief Superintendent of Schools, represented the Department of Education. Dr. E. P. Scarlett, the Chancellor of the University, acted as Chairman of the Exercises. The guest speaker for the occasion was Mr. Robert, Warren, Superintendent of the Public School system in Calgary.

(d) *Open House:*

The joint staffs here have decided to postpone holding Open House until we move to our new premises on the Banff Trail site.

(e) *Radio Talks:*

Students and staff contributed to radio publicity and also on television programmes.

(f) *Teachers' Conventions:*

The staff of the Faculty of Education again assisted generously in speaking at Alberta teachers' conventions in the southern part of the Province.

(g) *Career Days:*

Staff members in Arts and Science, Education, and Engineering assist at Career Days in and out of the City of Calgary.

(h) *Western Canada Conference on Teacher Education:*

This conference will be held in Banff this year under the Chairmanship of Dean Coutts of the Faculty of Education. Dr. J. D. Aikenhead is secretary of the Conference and Dr. A. L. Doucette is one of the official delegates from Calgary. Dr. Aikenhead will act in the capacity of secretary and delegate from Calgary.

(i) *World University Service:*

It was decided to postpone the continuation of World University Service on the Calgary campus until we move to our new premises on the Banff Trail site. However, it was agreed that the Treasure Van sale could continue in Calgary in the fall of 1958 and each succeeding fall until we move from the North Hill. Although this was the year for sending an overseas delegate to the Yugoslav conference it was not found feasible to do so this year because of our inability to raise sufficient funds.

2. *Special Reports:*

(a) *Faculty of Arts and Science:*

In this Faculty the only new first year courses introduced were Geography 1 and Philosophy 40. Total staff was increased by two instructors with the appointment of Mr. Frank Anton to teach Geography and Economics and Professor A. D. Winspear to teach Philosophy and Latin. Student enrolment increased slightly from 95 to 106 while partial and special students rose sharply from 21 to 48.

First year Engineering was offered in Calgary for the first time this year and two staff members were appointed to undertake instruction of a maximum of 60 students. Actual enrolment reached 59 with 4 subsequent withdrawals during the year. The course in Engineering Physics was taught two days a week by Dr. Brian Wilson who spent the rest of his time at the Cosmic Ray Observatory on Sulphur Mountain in Banff. Dr. Wilson is on a joint appointment with the University of Alberta and the National Research Council.

In the field of research Professor A. R. Prince is continuing his studies of the lichens of Alberta. Professor Winspear has just completed a new book on Lucretius, *The Roman Philosopher of Science*. His *Who Was Socrates?* is appearing in a second edition by Russell. Dr. Brian Dunford gave a paper on *The Kinetics of Active Nitrogen Reactions* at the meeting of the Chemical Institute of Canada in Toronto, and Dr. Brian Wilson gave a paper on *The Incidence of Cosmic Rays at Large Zenith Angles* at the meeting of the Royal Society of Canada in Edmonton. Mr. Frank Anton commented for the CBC on the Canadian Trades and Labour Congress in Winnipeg. During the summer of 1958 he will be doing research in Ottawa in the Department of Labour.

Last summer Dr. Victor Graham spent four months in France on a study grant made by the Humanities Research Council of Canada. From his work there he published a *Supplement a la bibliographie des oeuvres de Desportes* (Bibliothèque d'Humanisme et Renaissance XIX (1957) Travaux et Documents pp. 485-488) and the first volume of a critical edition of the works of the same poet—Philippe Desportes, *Cartels et Masquarades, Epitaphes*, Edition critique suivie du commentaire de Malherbe publiée par Victor E. Graham, No. 78, Textes Littéraires Français, Geneva, E. Droz, 1958, pp.119.

(b) *Faculty of Education*

The total enrolment in the Faculty of Education was slightly above the 1956-57 figure. Among the Junior Elementary group the numbers were approximately the same as in the previous year. In the first year of the Standard Elementary Programme the numbers decreased to 5 (22 in 1956-57) but in the first year of the Standard Secondary Route the numbers increased from 10 last year to 40 this year. This increment was undoubtedly due to the

policy of the Provincial Department of Education in giving grants for two years in the form of a bursary for two years of \$200.00 for each year and payment of tuition fees for each year. Those in the Elementary Route received the bursary for the first year only.

Dr. T. G. Finn returned on October 31st from a year's service with UNESCO in British Honduras where he acted as consultant in the revision of the programme of the elementary school there. Miss Bertha M. Newton returned from a year of graduate study at the University of Missouri. She has now completed all course requirements for the doctoral degree but must still present her thesis.

New members of the staff of the Faculty of Education during 1957-58 were: Mr. A. E. D. Schonfield, M.A. (Cantab.), Dip.Psych. (London), in the field of Educational Psychology, and Mr. A. A. Smith, M.Mus. (Toronto).

During 1957-58, Mr. S. A. Lindstedt of the Calgary staff was appointed as survey analyst to the Royal Commission of Education, chaired by Senator Cameron. His work will be in the area of educational statistics.

In May 1958 the Western Canada Conference on Teacher Education will be held in Banff, Alberta, as mentioned earlier in this report.

In the Calgary area, school districts and school divisions have been moving toward greater centralization. This has resulted in there being very few one-room or two-room rural schools available for the student teaching programme, and all of the Practice Teaching except in four rooms has been carried out in the city of Calgary schools. This has resulted in a saving of expenses in relation to student living and travel, but has also resulted in having the Calgary student receive his *practicum* in city rooms regardless of future employment in rural or city positions. Dr. J. D. Aikenhead, supervisor of Practice Teaching, reports a successful year, and favourable reports from the students as to the effectiveness of the overall practice teaching programmes.

During Dr. Finn's absence in British Honduras, Mr. S. A. Lindstedt assisted with the organization of the Practice Teaching programme during September and October of 1957, taking full responsibility for the Bachelor of Education Practice Teaching work. On Dr. Finn's return, Mr. Lindstedt continued to assume this previously mentioned responsibility.

(c) *Faculty of Engineering:*

Beginning in September, 1957 Mr. Russell McArthur and Mr. Walter Stilwell set out to organize the first year of Engineering at the University of Alberta in Calgary, all under the direction of Dean Hardy of the Faculty of Engineering in Edmonton. Some sixty students enrolled, as indicated in Dr. Graham's report on Arts and Science.

We have been very happy with the Engineering students here this year. They seem to have given a good account of themselves in extracurricular and academic work.

(d) *Student Advisory Services:*

General: Student Advisory Services in Calgary have continued in 1957-58 the types of functions listed in the 1956-57 report. Close liaison has been maintained with Edmonton regarding policy, filing routine, and interchange of student information.

Some matters relating specifically to the Calgary scene follow under specific headings.

Personnel: As in past years, only one person has carried the duties of Student Advisory Services in Calgary. However, for the first time his previously full lecture load has been reduced by one-quarter. Application has been made for a further one-quarter reduction of lecturing during the 1958-59 session. This gives some indication of the time-consuming nature of this essential service to students.

The present counsellor would be very loath to reduce his instructional load beyond the point requested for the next academic session. Rather, it is anticipated that increased enrolment(and therefore demand for counselling) will result in another person being appointed on a part-time basis to share Student Advisory Services duties with the present counsellor. Mr. A. E. D. Schonfield, recently appointed to the Division of Educational Psychology in Calgary, has been helping with interview therapy during the past year in an unofficial capacity.

The linking of Educational Psychology and General Psychology (Arts and Science) with the duties of Student Advisory Services is a natural and healthy arrangement. It is hoped that, as the University in Calgary expands, this relationship will be maintained and actively encouraged.

Psychiatric Referral: During past years, the Provincial Guidance Clinic in Calgary has been most co-operative in accepting special referrals from the University here. However, since they do not have a full-time psychiatrist in this clinic, emergency-type referrals are not possible. In consultation with Dr. A. J. Cook, Director of Student Advisory Services, and the Director of University Medical Services in Edmonton, it was agreed last fall that Calgary should work through the Associate Clinic in this city to make direct referral to local psychiatrists. The Calgary counsellor has had occasion to make use of this "routing" and feels that it is a desirable and necessary arrangement for dealing with severely disturbed students.

Because of the kind co-operation of Mr. Schonfield in matters of diagnosis and therapy, there was no need to make use of the facilities of the Provincial Guidance Clinic this year.

Clerical Work: Through the co-operation of the Director of the University in Calgary, and the Assistant to the Director (Arts and Science), considerable use has been made of secretaries in the general office and in the Arts and Science office in correspondence work related to Student Advisory Services. For filing and other non-secretarial work, non-University personnel have been hired at various times during the year. By the time the University of Alberta in Calgary moves to its new site (presumably in 1960) a full time receptionist-secretary will be required for Advisory Services.

(e) *Library Report:*

(See also the report of the Chief Librarian.)

The year 1957-58 saw a steady increase in the resources of the Library, with a consequent increase in the city circulation and attendance statistics:

Overnight Stacks	increase of 16% over 1956-57
Overnight Reserves	increase of 36% over 1956-57
Reading Room Reserves	increase of 20% over 1956-57

The increase in attendance is slight—just 148 over last year. This is due to the fact that the seating capacity has reached its maximum.

The Library was open 54 hours per week during the term. The Staff consists of three full time employees with seven student assistants working part time for a total of 373 hours.

In August, Miss M. I. Grant, Librarian since 1945, resigned and she is now continuing her library studies at the University of Michigan. Miss Dorothy E. Ryder was appointed in September. Miss Ryder had previously been in charge of the Air Services Library of the Department of Transport in Ottawa. The non-Professional staff during the year consisted of Miss Frances Drummond, Library Assistant, and Mrs. Emily O'Sullivan, Library Clerical Assistant, who was appointed to fill the vacancy when Mrs. Irene Kettner, Library Assistant and Stenographer, resigned in May.

On March 1st, 1958, the Library commenced a two-year programme of reclassifying the holdings to the Library of Congress Classification System. The actual reclassifying and much of the clerical work will be done at the Rutherford Library, with the Calgary staff making the necessary changes to the Calgary records and books.

(f) *Extension Activities:*

Miss Dorothy H. Wardle, B.A., was appointed last September as Extension liaison assistant and Administrative Secretary to the Director. Her report on Extension is as follows:

University of Alberta in Calgary, not having its own Extension Department, again provided liaison assistance to the Department of Extension in Edmonton for the latter's activities on the Calgary campus this session.

Six suitable classrooms in the Education Building were made available to the Department (with janitor services arranged), for the eleven evening courses held during the periods September 20th-21st (Basic English Workshop). January 6th-May 1st (nine other courses); and April 1st-June 17th (Social Welfare Certificate Course).

A total of \$2,382.00 was collected from the 234 students enrolled in the various courses.

In addition the sum of \$62.50 was collected from the sale of textbooks used in some of these courses.

One other course "Managing Investments", with an enrolment of 77, was held at the Palliser Hotel. A class list was prepared for this, enquiries answered and brochures mailed to interested parties, but most of the fees were collected by a Department representative.

Enquiries were answered and literature mailed to all persons interested in the Social Welfare Certificate Course, for which 37 students enrolled in the Calgary Section. Fees and lists for this course were prepared in Edmonton. The Director welcomed the members of this course on their opening night.

More than 700 telephone enquiries were answered in connection with all the courses offered, and brochures mailed to all interested parties.

Miss Wardle attended one meeting of the Extension Council in Edmonton on October 31st, 1957 in the absence of Dr. Doucette, Director of the University in Calgary.

(g) *Report of the Provost, Dr. A. A. Gibb:*

The Provost was responsible for student discipline and provided liaison between the Students' Union and the Administration.

The addition of the Faculty of Engineering plus a general increase in enrolment gave a broad enough base for a particularly successful year in extra-curricular activities. A fine student body spirit was evident on the campus.

The World University Service organization on campus has been disbanded temporarily due to lack of student interest. The Students' Council has voted to have the University of Alberta in Calgary join the N.F.C.U.S. (National Federation of Canadian University Students) and to levy compulsory membership fees on the student body next year.

A Political Science Club was also formed this year.

Liaison was maintained with the Edmonton Students' Union through visits of members of the Calgary Students' Union to Edmonton and of Edmonton Council members to Calgary. In addition, the Director, the Students' Council President and President-Elect attended the spring meeting of the Edmonton Committee on Student Affairs.

The constitution of the Students' Union was revised this year and the Students' Handbook will be revised and reprinted before the fall of 1958.

There were only minor discipline problems to be handled this year.

The Provostship will be turned over to Dr. J. D. Aikenhead on September 1st, 1958.

(h) *School of Physical Education in Calgary:*

The operation of the Physical Education department in Calgary continued in much the same way as reported in the 1956-57 report with the exception that provision had to be made for the physical education programme for the 60 new Engineering students enrolled for the first time here.

The extra-curricular programme and intramural programme was very extensive and culminated in the Colour Night banquet and dance function at the Palliser Hotel in March.

The extra-mural programme C.I.A.A. (Calgary Intercollegiate Athletic Association) which included Mount Royal College, the Provincial Institute of Technology and Art along with the University of Alberta continued this year. The School of Physical Education handle the athletics and sports part of the education trips to Edmonton and return (Operations Igloo and Tepee), and also travel to Lethbridge with teams for a day's events there.

Mr. L. Goodwin and Mrs. June Epton have carried the work of the Physical Education department very well indeed but the load has been increasing continuously with the increased enrolment and in 1958-59 there will be an additional staff member in the School of Physical Education. This will relieve Mr. Goodwin so that he will be able to spend more time on organizational work.

(i) *Bookstore Operations:*

The bookstore operations are reported on by Miss Dorothy Wardle, as follows:

The University of Alberta in Calgary, not having its own bookstore, again

provided space (in the Men's Lounge this year) for the sale of textbooks by a representative of the University Bookstore in Edmonton during the period September 23rd - October 9th, 1957.

Following the closing of the above "store", all remaining textbooks and textbook sales (and those received subsequently from the University Bookstore and direct from publishers) were handled by Miss Wardle, with generous assistance at peak periods by Mrs. E. Gibson in the General Office.

During this period (October 10th 1957 to March 15th 1958) the sum of \$2,186.07 was collected from the sale of 580 textbooks.

Total of books handled amounted to 875, of which 295 were returned to the University of Alberta Bookstore unsold.

At the time of this report, sales are being completed on an additional 105 notebooks and manuals, totalling \$54.00, in connection with the Survey School.

(j) *Fees for the Session 1957-58 in Calgary:*

This was the first academic year in which the University in Calgary prepared a composite Fee Statement, covering all Faculties; Arts and Science, Education, Engineering, and the group of Partial and Special-and-Partial students taking from one to three courses only in these Faculties.

A total of 563 students paid \$58,125.15 in fees; of this amount, \$54,650.15 was collected by the Calgary Fee office.

Report of Dr. J. W. Gilles, Director of the Summer Session

1. Registration and Attendance

The advance registration for the 1957 Summer Session reached a total of 2,358. Of this number, 452 students failed to attend so that the actual enrolment amounted to 1,906, an increase of eight over that of the preceding year. To this number must be added another 178 students who were registered in the Emergency Teacher Training Program, and 65 registered in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1957 Summer Session was 2,149 compared with 2,167 last year. A summary of the attendance figures follows.

Summary of Attendance

Faculty or School	Male	Female	Total
Education	604	935	1539
Arts and Science	83	37	120
Graduate Studies	117	31	148
Commerce	8	1	9
Household Economics .....	.....	11	11
Nursing .....	.....	5	5
Pharmacy	6	4	10
Engineering	4	.....	4
Specials	21	39	60
	843	1063	1906

Emergency Teacher Training Program

First Session Students	83
Second Session Students	46
Third Session Students	49

178	178
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<i>Leadership Course for School Principals ...</i>	65
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2149

Of the 1,906 students who attended the regular Summer Session, approximately 81% were registered in the Faculty of Education, 8% in the School of Graduate Studies, and 6% in the Faculty of Arts and Science. The remaining 5% were distributed through various schools and faculties or were registered as special students.

A summary of Summer Session enrolments for the last five years is given below.

Summer Session Enrolments, 1953-57

Year	Regular S.S. Courses	Emergency Teacher Training Program	Leadership Course	Total
1953	1622	.....	.....	1622
1954	1608	132	.....	1740
1955	1674	160	.....	1834
1956	1898	202	67	2167
1957	1906	178	65	2149

It will be noticed that the very marked increase in enrolment which occurred in 1956 in regular Summer Session courses did not repeat itself in 1957.

2. Instructors

The Summer Session teaching staff, including that of the Emergency Teacher Training Program, was comprised of a total of 115 instructors, 7 more than in 1956. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time Members of University Staff	53
Instructors from Affiliated Institutions	2
Guest Instructors from Alberta:	
Department of Education	8
School Systems	19
Others	4
	31
From Other Provinces	21
From U.S.A.	8
	60
	115

Visiting instructors from outside the Province included the following:

Mr. Ray L. Allen	University of Western Ontario
Dr. Julian M. Blackburn	Queen's University, Kingston
Miss Ruth M. Bones	University of Toronto
Miss Phyllis Bowers	Macdonald College, Quebec
Miss Virginia Carlton	Northwestern University, Evanston, Illinois
Mr. Lawrence Cluderay	Vancouver, B.C.
Mr. J. A. Doyle	Regina, Saskatchewan
Mr. William H. Drummond	Eastern Washington College of Education, Cheney
Dr. Florenc Dunlop	Ottawa Public Schools
Miss Catherine Falby	University of Toronto
Dr. Robert S. Graham	University of California
Mr. D. S. Lawless	Sincoe, Ontario
Dr. Ronald S. Longley	Acadia University, Wolfville, N.S.
Dr. David S. Milne	San Diego State College
Miss M. Sheila O'Connell	University of British Columbia
Dr. F. E. L. Priestley	University College, Toronto
Dr. K. F. Prueter	Etobicoke Public Schools, Toronto
Dr. Donald F. Putnam	University of Toronto
Dr. Gordon W. Smith	Royal Military College, St. Johns, Quebec
Mrs. Laura B. Smith	Oregon State College
Miss M. Louise Smith	University of Manitoba
Dr. Gordon Snelgrove	University of Saskatchewan
Miss Emily M. Spence	Bryn Mawr, Pennsylvania
Dr. Samuel M. Strong	Carleton College, Northfield, Minnesota
Mr. Hugh G. Thorburn	Queen's University, Kingston
Dr. Stuart Tompkins	University of Toronto
Mrs. Verda I. Town	Swift Current Public Schools
Miss Eleanor Vorce	Lexington School for the Deaf, New York City
Miss Mary-Louise Whimster	University of New Brunswick, Fredericton

3. Courses

A total of 98 credit courses, five more than last year, were offered in the 1957 Summer Session—86 for students in the regular session, and 12 for those in the Emergency Teacher Training Program. Thirty-two of the courses offered had laboratory requirements which varied from 5 to 20 hours per week. Use was again made of shops and classrooms at Victoria Composite High School for offering courses in Industrial Arts and Business Education.

Special mention should be made of Sociology 60—Sociology of Group Relations. This course was placed in the Calendar at the special request of the Canadian Council of Christians and Jews (Western Division) and was offered for the first time in the Summer Session of 1957. The Council subsidized the course to some extent and was very helpful in locating and securing specially qualified instructors.

The non-credit short course in educational leadership for school principals, which was inaugurated in 1956, was given again at Concordia College during the 1957 Summer Session with 65 principals in attendance.

4. *Size of Summer Session Classes*

A definite attempt is made to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected fall into two classes: Those where specialized equipment needed for teaching is available in limited quantities; and courses in the fields of History, English, and Elementary Education. Generous quotas, and a generous provision of courses in these areas provide assurance that students' needs are adequately met. In the cases of certain popular courses, especially where these are required courses in certain degree programs, multiple sections are provided.

The following table shows the distribution of classes according to size:—

Size of Class or Section	Frequency
10 students or less	11
11 to 40 students	74
41 to 60 students	25
61 to 80 students	13
81 to 100 students	1
Over 100 students	
Total	124

In the 1957 Summer Session, the average class load was 30 students per instructor as against 35 in 1956 and 33 in 1955.

5. *Special Events Program*

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of three lectures and one musical program. The speakers in the lecture series were: Dr. Robert S. Graham, University of California (Riverside), who spoke on "Hungary and World War II"; Mr. Cyril Hampson and Mr. E. T. Jones, who gave an illustrated lecture entitled "Alberta Wildlife"; and Dr. Samuel Strong, Carleton College, Minnesota, who discussed "How Can Inter-group Prejudices Be Modified?" The musical program was the traditional Choral Concert presented by the combined music classes of the Summer Session under the direction of their instructors. Attendance at the lectures and at the Choral Concert was very good.

The Rutherford Library again sponsored a series of five weekly recorded programs of music and plays which were presented in the music listening room.

A service of Worship conducted by Dr. Kenneth H. Prior was held in Convocation Hall on Sunday, July 29.

6. *Concomitant Activities*

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization,

were given between the hours of 3:00 and 5:00 p.m. Approximately 90 teachers completed the courses this summer as compared with 50 last year and 60 in 1955.

Tuberculin Skin Testing Program

Approximately 560 Summer Session students were given the Tuberculin Skin Test in a testing program organized by Dr. G. R. Davison, Director of the Division of Tuberculosis Control, Department of Health. Those who reacted positively to the test were later given X-Ray examinations.

Banff School of Fine Arts Opera

The Summer Session cooperated actively with the Department of Extension to promote attendance at the Banff School's opera presentation in the Jubilee Auditorium on August 5th.

Report of Dr. J. W. Gilles, Director of the Evening Credit Program

Program and Registrations

In 1957-58, Evening Credit Program courses were offered at eight centres, one more than during the preceding year. The total number of students registered for courses was 549 as compared with 428 in 1956-57, an increase of approximately 30%.

The salient features of the Program, compared with those of the preceding year, are set forth in the following summaries.

Centres, Courses and Registrations

Centre	Number of Courses Offered		Number of Students Registered	
	1956-57	1957-58	1956-57	1957-58
Edmonton	10	16	274	365
Calgary	3	2	43	60
Lethbridge	1	1	18	30
Medicine Hat	1	1	24	8
Red Deer	1	1	19	22
Camrose	1	1	33	20
Vegreville	1	1	17	29
Holden	...	1	.....	15
	18	24	428	549

Classification of Students

	Registration	
	1956-57	1957-58
Faculty of Education	310	353
Faculty of Arts and Science	45	65
Faculty of Graduate Studies	21	38
School of Commerce	8	24
Other Faculties and Schools	8	7
Special Students	36	62
	428	549

In Edmonton the program of courses has been expanded to the point where with some judicious cycling all courses required for the Bachelor of Arts degree (English, History, and Economics patterns) and for the Bachelor of Commerce degree will probably be made available over a period of four years. These courses, with the addition of a few from the Faculty of Education, will also meet adequately the needs of undergraduate students in that faculty. In addition, one or two graduate courses in Education are offered annually.

The relatively small enrolment in the Evening Credit Program at Calgary is related to the fact that the University at Calgary offered nine late afternoon courses and one course in the evening as part of its regular daytime program. To a large extent both of these programs were catering to the needs of the same group of students. In the light of these circumstances, the increase in registration in the Evening Credit Program at Calgary this year is very gratifying.

The Faculty of Education continues to attract the majority of students who register for Evening Credit Program courses. It is interesting to note, however, that the portion of students registered in that Faculty dropped to 66% this year from 74% in 1956-57. It is particularly gratifying to note the appreciable increase in the numbers of students who registered in the Faculty of Arts and Science, in the Faculty of Graduate Studies, and in the School of Commerce.

Approximately 22% of these who registered in the Evening Credit Program this year reported occupations other than that of teaching. Since these students were concentrated almost entirely in the cities of Edmonton and Calgary, it is safe to say that in those centres approximately 30% of those who took evening courses were *not* teachers.

Teaching Staff

The Evening Credit Program employed a total of 24 instructors, 17 of whom were also members of the University's regular teaching staff. Instructors were obtained locally for the courses offered at Red Deer, Lethbridge, and Medicine Hat. The classes at Camrose, Holden, and Vegreville were taught by instructors from Edmonton.

Prospects of Expansion

During the year requests for courses, or for information about courses, were received from the following centres: Fort Vermilion, Grande Prairie, Wainwright, Ponoka, Rocky Mountain House, Stettler, Veteran, Taber, and Bellevue. In some of these cases, the prospective enrolment would undoubtedly have been too small to warrant a course being offered. In every case, however,

the fact that a suitably qualified instructor was not available made further negotiations pointless. At the present time the principal factor determining the extent to which the Evening Credit Program can and will expand is the availability of qualified instructors. The Program may be expected to expand at centres such as Edmonton, Calgary, and Lethbridge, and at others where Junior Colleges may be established. Within radii of about fifty miles of these centres it may be possible to establish additional Evening Credit Program centres which will be serviced by instructors drawn from the University and Junior College teaching staffs. Beyond these limits there seems to be little or no prospect of the Evening Credit Program expanding to other centres.

Report of Mr. B. B. Peel, University Librarian

The increase in the use of the collections in the three libraries which constitute the university library system reflects not only the rise in university enrolment but also the broadening program of the university with greater emphasis on graduate studies and on research. During the year under review the total circulation of books was 256,089 volumes, or an increase of 17%. This does not give a full indication of the books used, since students have unrestricted access to open stacks in five of the reading rooms. The attendance of readers, as counted hourly in the separate reading rooms, was 576,663 readers, an increase of 83,000 over the previous year. In consequence of the upsurge in library use the work load of the permanent staff was very heavy throughout the regular university session.

Each year Summer Session enrolment rises. The concentrated nature of the courses offered results in heavy use of the library during the six-week period.

The Library again sent small basic collections of books to centres other than Edmonton and Calgary where Evening Division Courses are offered. The Library realizes that students in these centres are at a serious disadvantage in the matter of library materials as compared to intramural students who can draw on the large collection.

At the beginning of the winter session library instruction tours were given to over 1500 freshmen. This year the effectiveness of the tours was increased by having the freshmen complete questionnaires at the end of the tour. This gave library staff an opportunity to recapitulate any points which freshmen had missed, and the latter an opportunity to ask questions.

Professional Staff

The Library becomes increasingly dependent on the specialized knowledge and organizational ability of the professional staff as the service load becomes heavier and more complex in a rapidly expanding library collection and with a more demanding public.

The sudden death of Miss Emily Clever, Education Librarian for twenty-eight years, came as a shock. In July the resignations of Miss M. I. Grant, librarian of the Calgary branch for many years, and Miss Carol Hicks, chief cataloguer, were accepted with regret. These three positions were filled in September, that at the Calgary branch by Miss Dorothy Ryder, a former member of the staff, the position of Education Librarian by Miss Moira English, and that of Chief Cataloguer by Mr. Donald Baird. In August Miss Blanche Giffen, medical librarian, went on a year's leave of absence; the Medical Reading Room was placed under the supervision of Miss Phyllis Russell, who returned to the staff to take this position. In January Mrs. Joan Green resigned

her position as Reserve Reading Room supervisor, and was replaced by Miss Loretta Millar. In February Miss Phyllis Morgan resigned as cataloguer, a position which remained vacant at the end of the year.

Miss Lois Carrier of the Reference Department spent the month of May in Washington, D.C., participating in the map project of the Library of Congress. In addition to the training received in map processing, Miss Carrier was given the opportunity to select for the Rutherford Library some 3,000 maps from the duplicates in one of the world's great map collections.

Five members of the professional staff attended the annual conference of the Canadian Library Association held in Victoria in June.

Library Committee and Sub-Committee

During the year the Library Sub-Committee met four times and the Library Committee once. Late in the year the size of the Library-Sub-Committee was enlarged from six to seven members; two members retired and three new members were added. The Librarian wishes to express appreciation to the retiring members, Mr. G. Samuel and Dr. O. J. Walker, for the thought and time they devoted to the work of the Committee. Dr. H. R. Thornton retired as chairman of the Sub-Committee but remained a member. His guidance and interest in library matters has been of great assistance to the Librarian.

Order Department

This department is responsible for the purchase and preliminary processing of all incoming material. Orders received consisted of 9,953 volumes, to which must be added gifts and free material, making a total of 11,061 volumes of new material. This increase of 45% in materials processed was handled by the same number of staff, one professional and two clericals. The number of orders sent out monthly ranged from a low of 519 to a high of 1,296, each of which called for the closest individual attention, checking the request to see that it did not duplicate our holdings, checking bibliographical details to insure that the correct book was ordered. The orders placed for books and periodicals represented an expenditure of over \$70,000 from library funds and special grants.

The department continued to search for missing issues in the Library's back files of periodicals, and located 530 issues of 133 periodicals. In addition to book orders, the department placed subscriptions for 1409 periodicals, 123 of which were new titles.

Cataloguing Department

This department is responsible for the assimilation of the increasing inflow of library materials by placing these in subject classifications on the shelves, and by recording the new acquisitions in the public catalogue, so that users may have a ready approach to the resources of our library.

In September Mr. Donald Baird took charge of the department and introduced certain innovations, the most important of which was synchronizing the typing of card records with the progress of the book through the department so that the book and cards now leave the department at the same time. The department has attempted to clean up some oddments of tasks, the most important of which were to make a beginning at recording the uncatalogued Rutherford Canadiana Collection, and the reclassification of the Library of the

Research Council. Our Cataloguing Department reclassified 342 titles, and catalogued 188 new titles for the Research Council Library.

During the year the library's five-year reclassification project finally came to an end.

Though hampered by changes and shortages in professional staff, the Catalogues, encyclopedias and other compendiums. The department provided very statistics show 12,396 volumes accessioned, 11,716 new volumes catalogued, 4,176 volumes reclassified and 79,757 cards typed.

Reference Department

The Reference Department's primary function is to guide library users to such keys of information as indexes and abstracts, bibliographies and catalogues encyclopedias and other compendiums. The department provided very direct service to the campus community by answering 5,721 questions, of which 1,220 were queries involving lengthy research by the staff. Students using the Main Reference Reading Room for the purpose of study or consultation of reference works numbered 168,164, an increase of nearly 23,000 over the attendance of the year previous. Volumes circulated for home use from the collection housed in this reading room totalled 11,627.

The Department also carries on the inter-library loan service, supervises the Periodical and Map Room, and collects and cares for the official publications of governmental and international organizations.

The Inter-Library Loan service continued to show an increase in requests. A total of 526 volumes was borrowed or loaned as compared with 426 volumes in 1956-57.

In the Periodical and Map Room our records show that patrons borrowed 21,271 issues of periodicals and used 3,029 sheet maps.

The map collection added 3,986 sheets, most of them collected by Miss Carrier at the Library of Congress. Important advances were made in organizing the map collection, during which 16,994 maps were processed.

During the year the library became a partial depository library for printed publications of the United Nations. The total number of documents—dominion, provincial, and United Nations—received was 11,312.

The bindery preparations division sent 2,253 volumes to binderies, and bound or repaired an additional 226 volumes in the department.

General Circulation Department

To many users of the library the work of the Main Circulation Desk is probably synonymous with the work of the library. This department is responsible for maintaining the loan records, and controlling stack access and egress. All students receiving stack passes were given instruction in the location of subject materials. The department has supervision of the Browsing Area, and is responsible for rotating the book collection in this area.

Attendance in the stacks increased slightly, but there was a noticeable increase of approximately 6,000 in the Browsing Area. Total attendance for the two areas was 47,625. Books circulated from the stack area was 42,858 volumes.

The Reserve Reading Room continues to be a busy area. Attendance reached the figure of 92,799, which is an increase of 26% over 1956-57. Circulation of reserve books totalled 43,615 volumes.

In May, 1957, the book collection in the main stacks was reorganized. This

marked the end of the dislocation in shelving arrangement inevitable during a reclassification program.

In August, for the benefit of members attending the international mathematics and physics seminar held on the campus, this department which is not normally open in the evening at this time of the year was kept open for five evenings per week. A special shelf of books was set aside for use of the participants in the seminar.

Reports of the Branch Libraries

Medical Reading Room

During the absence of Miss Blanche Giffen on leave, this reading room has been under the competent supervision of Miss Phyllis Russell. Since the enrolment in the faculties served remains nearly constant, the attendance and circulation are fairly static from year to year. This year attendance was 41,776 while the circulation was 17,883 volumes.

As in former years, this Library has given service to medical practitioners, most of them living in the city. A total of 1,564 volumes was borrowed by doctors. In addition many hours of reference service were given to this group.

The Medical Reading Room, to conform to the longer academic term for medical students, is now open full library hours from early September through to mid-May. The hours of opening were extended to include Saturday afternoons.

Instruction in the use of the reading room and its resources was again given by the staff to classes of students at the beginning of the term.

Law Library

The total attendance for the year in this reading room was 32,803, very close to the figure for the previous year. The number of books and periodicals borrowed for home use showed a marked increase from 4,892 volumes last year to 7,529 this year. Since most of the material in the collection is used in the reading room, the circulation figures above represent but a small part of the use made of law books.

During the year 1,245 volumes of law texts and reports were added to the collection.

Applied Science Reading Room

This reading room showed a spectacular increase in attendance, circulation, and reference questions asked. The high attendance of 68,109, an increase of 32%, may be explained by the rise in enrollment in engineering, the availability of additional reading space, and the library instruction which encourages students to use the resources of this room. The circulation of 18,752 volumes represents an increase of 23%, but as all volumes in this reading room are on open shelves the figure does not give the complete picture of use. Reference questions asked showed an increase of 183%.

The former Projection Room was converted during the summer into a reference and periodical room for the applied sciences. This room has been very popular with readers. Although the wall shelving of this room provided welcome additional space for books, it did not solve the serious book stack problem of this reading room, the first area in the library confronted with a space problem.

Mrs. MacDonald is to be commended for the valuable library instruction offered throughout the year to small groups of students. Classes given in-

struction were all students enrolled in first year Agriculture, most third and fourth year Engineers, many second year Engineers, and some Chemistry students. Mimeographed copies of bibliographies of reference books of value to students in their studies were given to participating students.

Education Library

This library, occupying three rooms on three floors of the Education Building, is serviced by a staff of four. Following the unexpected death of Miss Emily Clever at the end of June, the Library was under the supervision of Mr. Denys Noden, Law Librarian, for the period of the Summer Session. Mr. Noden effectively organized the Education Library for the six hectic weeks of the Summer Session. Miss Moira English, who assumed the duties of Librarian in September, has made a valuable contribution to the service by reorganization and innovation.

The Library reports a remarkable increase both in attendance and circulation. The attendance for the year was 59,066, while circulation was 59,509. Each of these figures represents an increase of roughly 46%.

In May the Library, as in other years, gave library service to the fifth and last workshop sponsored by the Canadian Education Association — Kellogg Foundation.

An important reorganization in the Education Library was the setting up of a periodical alcove where students could have free access to current and bound journals. Policy on journals was changed to permit their circulation.

During the winter session the library was open four evenings a week from seven to ten o'clock. Prior to this, in the evening the library was open shorter periods for the exclusive use of students enrolled in the Evening Division Program.

Calgary

This library now has a staff of three full-time members. Miss Dorothy Ryder, who succeeded Miss M. I. Grant shortly before the beginning of the winter term, has during the session been reorganizing in preparation for the anticipated rapid expansion of book stock and services.

The library, like the rest of the building, was disrupted during the summer months by the removal of the old heating equipment and the installation of new. Fortunately, the library was renovated in time to permit reshelving of books before the term began. During this period the library underwent considerable rearrangement to utilize to the best advantage the cramped and unsatisfactory quarters. The music listening tables and the records were removed from the library to provide more reading space. Nine units of single-faced metal shelving were erected to alleviate somewhat the congested state of the shelves. Early in the winter term the room was repainted.

The attendance was the same as last year for the simple reason that it is impossible to crowd more readers into the present area. The attendance figure was 55,510. The library circulated 27,473 volumes, an increase of 19%.

At the end of the year plans were underway to reclassify the collection under the Library of Congress scheme because it is felt that this classification is desirable for an expanding book collection on a growing campus.

Miscellaneous Services

The Music Listening Room continues to provide students with an opportunity to listen to good music. During the year about 1,840 students took ad-

vantage of the noon-hour concerts. Twenty-four classical records were added to the collection.

The photostatting service processed some 73 orders representing 1400 pages of photostats.

As in other years a number of attractive displays were set up in the display cases of the library rotunda.

Gifts

We are grateful for gifts to the Library from the following organizations and individuals:

Carnegie Corporation of New York, a gift of 350 titles on American life and thought.

Chekhov Publishing House, a gift of 156 Slavic titles.

Mrs. Irene Gonsett, a further gift of \$500 for the purchase of Slavic books.

Mrs. H. M. E. Evans, a file of Punch.

Mr. E. S. Huestis, the library of his father.

The Calgary Public Library, a gift of a collection of French books.

And from numerous other sources, gifts of books which have been duly acknowledged.

Report of Professor A. A. Ryan, Provost

General

The tradition of student self-government on the campus was well maintained this year, thanks to the maturity and dignity brought to the office of President of the Students' Union by Mr. Bob Smith, and to the cooperation of other students in responsible positions.

Student Government

In line with recent thinking by the leadership of the Students' Union, steps have been taken to reorganize Students' Council in such a way as to place more responsibility for specific areas of Union business on individual council members and small committees.

Several experiments initiated during the past year or two seem to have been successful. First, is the creation of the new office of Coordinator of Student Activities to exercise general supervision over the scheduling and organization of extracurricular life. Second, is the creation of a Signboard Directorate, with the sympathetic aid of the Department of Fine Arts, to improve the standards of campus advertising and to give students practice in applied art.

Also proving very useful are a new Students' Union Handbook prepared in conjunction with the Provost's Office, and a card record system set up in the Student's Union Office by the Coordinator of Student Activities to make available information on the extracurricular interests and activities of all students.

A needed revision and rewriting of the By-Laws of the Students' Union has just been completed, and the terms of reference of the University Athletic Board have been spelled out clearly in a new Student's Union By-Law and a Constitution.

Student Activities

The number and nature of student activities were much the same as last year, but the University was exceptionally successful in competitive activities. Some of the highlights of the year included:

(1) the fine showing of the athletic teams led by the Golden Bear Hockey Team which outclassed the league and once again won the Hamber and Hardy trophies;

(2) the continuing growth of participant sports, with curling again leading in membership and a new bowling club attracting much interest;

(3) the winning of the McGoun Debates by Alberta debaters for the second consecutive year; and

(4) the expansion of "Varsity Varieties" to a full-scale unified review under the highly commendable direction of Mark Cohen, a first-year student, and its presentation to capacity audiences in the Jubilee Auditorium.

Mention might be made, too, of the exuberant interest shown in the campaigning for the "Model Parliament".

Among the long-standing cultural groups sponsored by the Students' Union, the Mixed Chorus continues to maintain a high level of performance. Its effect is felt indirectly through such allied activities as "Varsity Varieties" and the Interfraternity Song-Fest.

Students' Union Building Program

In the course of the year, Students' Council has taken a close interest in the rapidly maturing plans for the Physical Education and Recreational Buildings which will adjoin the West end of the Students' Union Building. The question of the best utilization of space in the Students' Union Building is being reviewed in the light of these planned additions.

Public Relations

Under the able management of the Public Relations Officer, Mr. Al Bryan, the three major public relations events of the year were carried out successfully. Because of a coincidence in dates, it was found possible to combine the Annual Parliamentary Dinner with the official opening of Varsity Guest Weekend at the first showing of "Varsity Varieties". Guest Weekend, thanks in part to fine weather, drew the biggest crowds to date. Because of the continued success of Guest Weekend, and for the sake of continuity, it was decided not to skip next year as had been tentatively planned.

Residences

Life in the University Residences has continued to be well conducted under the conscientious leadership of the Wardens and the Women's and Men's House Committees. Mr. Douglas Sherbaniuk of the Faculty of Law, who succeeded Mr. John Bilsland as Warden of Athabasca Hall in September, 1957, has co-operated enthusiastically with Miss Simpson, Dr. Scargill, and the House Committees, and reports an enjoyable year.

With applications for admission to the Residences continuing to be far in excess of the space available, the House Committees and the Students' Council are supporting Administration efforts to provide more residences.

Fraternities

Once again this year the number of social fraternities permitted on the campus has been restricted to twelve, although inquiries continue to be received from international fraternity groups who wish to set up chapters in Alberta. It is gratifying to be able to report that the men's fraternities are becoming increasingly aware of the need to better their public relations, and are strengthening the Interfraternity Council to give it a place of leader-

ship in fraternity life. At the moment, for example, the Interfraternity Council has committees investigating the questions of finances and liquor as they apply to fraternities here. Mention should be made, also, of the opening of the well-designed new Zeta Psi Chapter House, and of the outstanding showing in athletics made by Kappa Sigma Fraternity.

Discipline

In spite of much lively inter-group rivalry on the campus, it is a pleasure to be able to report again that the year has passed without a serious case of misconduct. Much credit is due to the leaders of such student groups as the Engineering Students' Society and the Education Undergraduate Society, who have cooperated wholeheartedly with the Administration and given strong leadership to the large numbers of new students in their clubs.

Report of Professor Maimie S. Simpson, Dean of Women

Interviews

Interviews were more numerous this year, in part, because of the increase in the student population, and, in part, because the office in the new Administration Building is so convenient for students as they go to and fro.

Financial Assistance

Babysitting, student assistantship in the Rutherford and Education Libraries, and part-time work, usually on Thursdays, in some of the shops, gave a number of students the extra financial assistance they needed.

Extracurricular Activities

The number of these is growing at almost an alarming rate. It may be necessary before long, to give some careful consideration to the situation as the scheduling of dates for the many activities is becoming a "major" problem.

Dances, both informal and semi-formal, meetings of the Wauneita Society, gatherings with the Mixed Chorus, and Sunday Musical Club Concerts were attended, in each case by invitation from the students.

The monthly meetings of the Panhellenic Society were attended as adviser and upon request of the fraternity women.

This year it was possible for Mrs. R. S. Eaton to accompany the Mixed Chorus on its out-of-town three-concert series to Westlock, Red Deer and Bentley. It is our hope that Mrs. Eaton will go along with Mr. Eaton and the Chorus when at all possible. Once again, Mrs. Harry Scargill will be with the Chorus during "Maytime in Alberta", April 30th to May 10th.

Because of increased enrolment it was necessary to increase the number of "Freshette Coffee Hours". The response to the invitations was excellent.

Women graduands in Honors B.A. and B.Sc., in Medicine, Pharmacy, Agriculture, Law and Commerce were entertained at tea in early March.

Through the efforts of the Wauneita Executive the Student Wives' Club was organized this spring. This club will meet in the Wauneita Lounge once a month during the academic year.

The Infirmary

As in the past, women students confined to the infirmary or to the University of Alberta Hospital were visited when possible.

Dr. Vant's Lectures

Dr. Ross Vant's lecture series to the First-Year Women becomes more appreciated each year. This series he gives now on two consecutive days. These lectures are indeed invaluable.

Recommendations

Recommendations for students seeking summer employment or permanent positions upon graduation, or making application for scholarships, continue to take a great deal of time during March and April.

Public Relations

One broadcast over CKUA, and numerous addresses to high school graduating classes, church groups, Friendship Clubs and women's groups (at their regular monthly meeting and at their conventions) as well as to open meetings of several campus groups were given during 1957-58.

Appreciation

No report of the Dean of Women could be complete without a word of appreciation of the good work done by the Executive of the Wauneita Society, the Students' Council, and the Executives of such groups as the Musical Club, Mixed Chorus, Drama Society and Residence House Committees.

The contribution of these groups to the smooth-running of campus life is hard to measure.

Report of Dr. A. J. Cook, Director of Student Advisory Services

The past year saw the Services at Edmonton established in attractive quarters in the Administration Building after seven years in rather bleak temporary quarters, which, curiously enough, never seemed to dampen the ardor of the staff.

The Services

The principal work of the department is counselling students. The appointment books have been full all the year round, despite the appointment of a full-time counsellor, beginning July 1, 1957. An extra clerk was also used for four months during the summer.

The usual means of information for prospective students have been employed: The Staff has participated in dozens of Career days beginning in February until the day of Convocation; four radio broadcasts in April were arranged with the University Radio Services for use on various stations and on school broadcasts; 6000 information bulletins, 10,000 summary pamphlets, and 1750 Varsity Guest Week-End illustrated brochures have been distributed.

Housing listings seemed fewer last August, and the need for more residence accommodation grows more urgent each year.

Study Skills

The problem of freshman orientation is one which is still far from resolution. The Bookstore sold several hundred copies of a booklet on study skills. We believe this kind of literature is helpful to the freshman. A letter was sent out to all freshmen immediately after the November tests, which included notice of the Study (skills) tutorial plan, which operates on a voluntary basis. Over 200 students responded and several periods were held, one before Christmas and one or two in January, in which all the staff participated. We shall further develop this approach next session.

Another letter was sent out in the second term to those students who rated in the top-quarter on scholastic aptitude, according to tests given in September. The letter was sent in two forms, one to those whose achievement in December was in harmony with what one could expect, and the other to the under-achievers. The letter invited both groups to make use of the intellectual and cultural resources of the University. The response was encouraging. Quite a number of students came in to discuss the letter more fully.

Reading training was begun last session on a voluntary basis, under the direction of A. J. B. Hough. Two groups of students participated; one consisting of students of honors calibre, the other of students of average ability. These groups were, of course, not confined to freshmen. The results were quite encouraging and the work will be continued next session.

Liaison with Student Medical Services

A joint staff meeting with Medical and Advisory Services was held during the summer with special reference to psychiatric referrals. As a result, referral arrangements have been greatly clarified. The staffs of both services work closely together and it is a pleasure to note our appreciation of the work done by our Medical Services on behalf of students who find the going unduly rough.

Staff

Mr. D. C. Fair, a graduate of the Faculty of Education with three years school teaching experience, was added to the staff, beginning July 1, 1957. He is a full time counsellor at Edmonton. The load of counselling at Calgary is increasing and Dr. J. G. Woodsworth, the Counsellor at Calgary, will give half of his time to the work next session. Miss Wilson and Mr. Hough taught half and quarter time respectively, last session.

Mr. Fair took over the lectures on study skills etc, to both groups of first year Nurses at the University Hospital. These lectures (20 periods for each group) were previously given by Mr. Hough and Miss Wilson.

Staff meetings were held regularly, usually weekly, through the session.

Dr. Cook attended meetings of The Western Personnel Institute in Pasadena last November and participated in a panel presentation of the topic "Changing Values in College".

At the end of their busiest year to date, it is a pleasure to express appreciation for the fine work of my colleagues, including the office staff and for all the enjoyable working relationships with the other departments of the University.

Extracts from the Statistics of the Students Medical Services, presented by

Dr. J. F. Elliott, Director

	1957-58	1956-57
<i>Doctors' Visits to the Infirmary</i>	656	530
Dr. Elliott	83	41
Dr. Little	179	174
Dr. Cantor and Dr. Edwards ...	179	(Dr. Cantor)—161
Dr. Hutton	22	15
Interns	193	139
<i>Doctor's Consultations</i>	4,592	4,680
Daily Average	23	23
<i>Visits to Infirmary Bed Patients</i>	595	420
(Not including visits to Influenza Epidemic patients)		

Daily Out-Patient Treatments

<i>and Consultations</i>	15,903	13,296
Men	10,334	8,417
Women	5,569	4,879
Daily Average	59	50
Gynaecological patients treated	27	34
Psychiatric referrals	25	20

Summary of Infirmary Bed Patients

	No.	Hosp. Days	Avge. Stay	No.	Hosp. Days	Avge. Stay
Men	112	366	3.2 days	82	246	3.0 days
Women	58	238	4.1 days	57	179	3.1 days
Total	170	604	3.6 days	139	425	3.0 days

<i>Basal Metabolism Tests</i>	33	45
Men	3	6
Women	30	39
Haemoglobin tests	43	59
White Blood Counts	20	27
Urinalysis	895	173
Cerumen Removal	94	101
Penicillin—		
Patients treated	132	247
Doses given	444	819
Aureomycin—Patients treated	18	40
B.C.G.	64	63
Betalin	2	2
Polio Vaccine—		
Patients treated	1,653	458
Doses given	2,512	837
Special Hay Fever Vaccine	8	6
Staph. Toxoid Vaccine	6	4
T.A.B.T. Vaccine	3	3
Tuberculin tests	1,752	1,758
Smallpox Vaccinations	27	14

Students Treated in Hospitals

	Men	Women	Total	Men	Women	Total
University	59	17	76	44	24	68
Other	12	2	14	12	3	15
Total	71	19	90	56	27	83
<i>University Hospital Days</i>			518			366
Men	374			222		
Women	144			144		

Students Medical Service Staff 1957-58

Director	Dr. J. F. Elliott
Infirmary Physician	Dr. Adam S. Little
Assistant Physician	Dr. A. M. Edwards
Gynaecologist	Dr. Margaret Hutton

Psychologists	Dr. K. A. Yonge
	Dr. W. Sigurdson
Internes	Dr. Henry Wilde
	Dr. William Beamish

Infirmiry Staff

Matron	Miss G. A. Revell, R.N.
Assistant	Mrs. J. H. Ward, R.N.
Relief Nurse	Mrs. H. M. Vango, R.N.—April Only
	Mrs. Ethel Taylor, R.N.—From September
Nurses' Aid	Miss A. I. Folden
Cook	Mrs. Abigail Taylor
Housekeeper	Mrs. Emma Bird—From October
Relief Housekeeper	Mrs. M. Neill—April and September only

Report of Miss Margery W. MacKenzie, Radio Director

In the continuing effort to achieve a higher standard in University broadcasting a full-time program producer, Mr. Guy Vaughan, was appointed to the staff of Radio Service. In addition, honoraria were for the first time given on a regular basis by the University, both to broadcasters and to members of the faculty arranging program series. At the end of a two-year trial period some assessment will be made of the results achieved.

The same broadcast period as in the 1956-57 season was utilized—6:45-8:00 p.m. Monday through Friday and 8:00-9:00 p.m. Saturdays. The schedule of broadcasts was in effect from October 14th through April 30th, two weeks longer than in the preceding year. Programs for the remainder of the year continued to consist of one hour a day, six days a week, of recorded music.

Major program series were developed by committees of conveners in the fields of science, the social sciences and literature. The science programs included a series on great scientists, *Meet the Scientist*, five programs presented by scientists in Western Canada dealing with the *International Geophysical Year*, and a series of four programs on the *Wonders of Living Cells*. The series on the social sciences included groups of programs arranged by the Departments of Geography, *Water and Man*, and Political Economy, *People and Prosperity*. The Department of Philosophy and Psychology also contributed to this series as did the Department of History with *Rogue or Hero?—Some Portraits from the*

Historian's Gallery.

The literature series, *Men and Letters*, included reviews of recent books and reassessments of certain books of long standing as well as general talks on literature.

Music programs, including recitals for *Western Board of Music* students and teachers, recitals on the University's Memorial Organ, the long-established *Music Hour* and *My Saturday Evening Concert* were arranged by or under the supervision of the Division of Music. Considerable interest was taken in the Saturday program for which persons from the University faculty or from the city in general were invited to select and introduce programs of recorded music.

A new program, *Two on the Aisle*, offering critical appraisal of professional music and drama presented in Edmonton, found a ready audience.

Short series and independent programs included *Myths in Education*, presented by the Faculty of Education, *Your University and You*, information to

prospective University students provided by the staff of Student Advisory Services, and talks dealing with the work of the Department of Extension.

November 21st, 1957 marked the Thirtieth Anniversary of the University of Alberta on the air. A special program, an hour and a half in length, reviewed the thirty years of broadcasting. Assistance with the script was given by Elsie Park Gowan, and participating in the special program were Mr. G. R. A. Rice, Mr. Vernon Barford, Mr. H. P. Brown, Professor Wardlaw Porteous, Mrs. Gowan and Mr. Harry Taylor,—all of whom were active in the earlier years of University broadcasting. The Radio Director spoke briefly on the radio work of the last ten years and Dr. W. H. Johns on future plans. Professor Arthur Crighton performed at the Memorial Organ to complete the program.

The student Radio Society, with an active membership of about twenty-five, broadcast a varied program of music, interviews and campus news on Saturdays from 5:00 to 6:00 p.m. under the direction of President John Vandermeulen. Its past president, James Edwards, gave good service as chief announcer on the staff of Radio Service. Donald Webber and Donald Cameron, also students, completed the staff of operator-announcers.

Programs continue to be publicized by printed program schedules, available on request. About 2,900 copies of each schedule are now distributed to listeners.

In the interests of obtaining wider coverage for University broadcasts the management of CKUA generously cooperated in the rebroadcast in March and April at 11 a.m. of thirty-seven of the talks previously presented during the regular evening series. In addition, a group of seventeen programs was rebroadcast during the spring and early summer by radio station CFGP, Grande Prairie. Certain other programs have been rebroadcast in Red Deer, over station CKRD, through the local Home and School Association. The co-operation shown in the past by radio stations in Calgary, Medicine Hat, Lethbridge and Grande Prairie in rebroadcasting the series designed for prospective University students is also anticipated.

Report of Professor R. S. Eaton of the Western Board of Music in Alberta

1. *Statistics (Candidates and Fees):*

Candidates	February	May	June	Total	Fees
Practical	167	.....	1032	1199	\$1402.75 (February)
Theoretical	278	459	.....	737	6559.78 (May and June)
				1936	\$7962.53

This shows a decrease of 140 candidates and an increase in fees of \$983.53.

2. *Revenue from the Sale of Theory Papers (December 1, 1956 to November 30, 1957)*—\$77.50. This shows an increase of \$6.98.

3. *Centres:*

(a) *Practical:*

February, 1957: Edmonton, Calgary, Lethbridge, Red Deer.

June, 1957: Banff, Blairmore, Bowden, Calgary, Castor, Chauvin, Dawson Creek, B. C., *Eaglesham*, Edmonton, Forestburg, Fort Kent, Girouxville, Glendon, Grande Prairie, Hythe, Lethbridge, Medicine Hat, McLennan, Peace River, Pincher Creek, Ponoka, Red Deer, St. Paul, Spirit River, Wetaskiwin.
(*Italicized centre was new in 1957*)

(b) *Theoretical:*

February, 1957	35 centres
May, 1957	40 centres

4. *Examiners for Practical Examinations:*

February:

Mr. Leonard Heaton, Winnipeg; Mrs. Gladys Whitehead, Kenora; Mr. Knight Wilson, Calgary; Mr. Edgar Williams, Mr. Robert Pounder and Professor R. S. Eaton of Edmonton.

June:

Mr. Georges Lindsay, Montreal; Mr. Lucien Needham and Miss Jean Broadfoot of Winnipeg; Mr. Smyth Humphreys and Mr. Lloyd Powell of Vancouver; Mr. Leonard Leacock, Calgary; and the following examiners from Edmonton: Mrs. Dorothe Langmo, Mrs. Jocelyn Pritchard, Mr. Robert Pounder, Mr. Douglas Millson, Mr. G. K. Greene, Professors Arthur Crighton and R. S. Eaton.

5. *Diplomas Granted:*

Fall Convocation:

L.Mus.(Vocal): Sister Eustelle du St. Sacrement.

L.Mus.(Piano): June Daley.

A.Mus.(Vocal): Ellen Carey Smith, Sheila McCorry.

A.Mus.(Piano): Mark Jablonski, Emma Jungen, S. M. S. Antoine de Milan, Hedwig Grams.

6. *Broadcasting (from October 1956 to March 1957):*

Once again, twice-monthly broadcasts were given by well-known Edmonton teachers and musicians. Early in October, Bruce Pinkney and Marilyn Smith began the series with a violin and piano recital, followed on October 18th and November 1st by Marguerite Marzantowics, violinist, and Dorothe Langmo, violinist. Doreen Flesher, pianist, and Ellen Carey Smith, soprano, gave the December broadcasts. In January and February Jocelyn Pritchard, pianist, Edgar Williams, violinist, and Suzanne Welsh Gibson, organist, broadcast—Mrs. Pritchard giving both January 10th and February 21st recitals. The broadcasting year for Western Board recitals ended in March with a trumpet recital by Ken Hopkins and a half hour of piano music by Anne Burrows.

7. *Recitals:*

Five recitals were given in the fall of 1957 beginning on November 8th in Grande Prairie; the others were held in Red Deer, Lethbridge, Calgary and Edmonton. Presentations were made of scholarships, bursaries, prizes and medals, following programs given by the young award winners for each district. The following were guest artists; Priscilla McLean of Edmonton—in Grande Prairie; Gary Hickmott and Lawrence Mysak of Edmonton—in Red Deer; Irene Kupeczek of Calgary—in Lethbridge; Vivienne Rowley of Edmonton—in Calgary; and June Daley of Calgary was the guest artist at the Edmonton recital.

8. *Scholarships, Bursaries, Prizes and Medals:*

In 1957, the awards again totalled about \$5,000.00. These were given by donors throughout Alberta: the fine string scholarship for tuition at Peabody Conservatory in Baltimore was offered but no candidate qualified. For the same reason, the Banff School of Fine Arts tuition bursary was not awarded. Because of lack of suitable candidates in some areas, one bursary and a few prizes were not awarded.

New Awards

This year the Edmonton Women's Musical Club inaugurated the Fred M. Gee Memorial Scholarship of \$300.00. This has been awarded to a student now in first year University and is payable in three yearly installments of \$100.00.

Two new prizes were offered and awarded—the Al. Pepin Music Prize of \$20.00 in the Dawson Creek area and the Iva M. Light Memorial Prize for the Hythe district—a yearly award of \$15.00 for a period of ten years.

Report of Lt.-Col. J. H. Whyte, Commanding Officer, The University of Alberta Contingent, Canadian Officers Training Corps

1. During the academic year 1957-58, the Officers of the Contingent were Lt.-Col. D. E. Smith, Major J. H. Whyte, Major W. C. Wonders and Lt. H. R. Hawes. The Resident Staff Officer was Major J. L. Hunter, The Queen's Own Rifles of Canada. The Honorary Colonel is Col. H. A. Dyde, OBE, MC, QC.
2. On 15 April 58, Major Whyte was promoted to the rank of Lieutenant-Colonel and assumed Command of the Contingent.
3. During the summer of 1957, 33 Second Lieutenants and Officer Cadets took Practical Phase Training. Three members of the Contingent were selected to train in Germany with the 2nd Canadian Infantry Bridage Group.
4. A first year enrolment quota of 14 was established by Army Headquarters. Six first year cadets were actually enrolled. In addition, four first year cadets of the Regular Officers Training Plan started their Training with the contingent.
5. First year cadets received lectures in Leadership, Military Law and Introduction to the Army. Second year cadets received lectures in Leadership, Organization and Administration in Canada, and Tactics. Third year cadets received lectures in Leadership, Military History, and Tactics.
6. The Contingent participated in the following University activities: Remembrance Day Services, Varsity Guest Weekend and the opening of the Model Parliament. Social events held were the Tri-Service Ball and the Annual Mess Dinner.
7. There are indications that Resident Staff Officers are being withdrawn from all Universities. Major Hunter has in fact already been posted to Kashmir for service as a United Nations Military Observer, and it is expected that he will not be replaced. Consequently, submission has been made for an increase in the establishment of Contingent Officers, in view of the increased duties which they will have to carry out.

Report of W/C B. E. Riedel, Commanding Officer, University of Alberta Squadron, R.C.A.F.

In May 1957 the squadron strength was 90 flight cadets. All of these served with the Air Force during the summer months. Two cadets, one male and one female, were posted to Europe for the summer and made very good use of their opportunity, both with the Air Force and during spare time.

Certain changes in staff occurred in the past year. F/L Crighton was promoted to the rank of Squadron Leader; F/O Blackley was promoted to the rank of Flight Lieutenant; F/L Anton was moved by the University to Calgary and was retained on the squadron strength as a super-numerary with power to recruit squadron members in Calgary; F/L Common was enrolled to bring the

Edmonton staff up to strength. F/L J. R. Curry, Regular Force, continued as Resident Staff Officer and Cpl. F. G. Poire continued as clerk.

Recruiting continued good this year although a little slow. Thirteen Flight Cadets who were pre-selected under the Regular Officer Training Plan entered University in September, 1957. In addition four cadets were enrolled by the squadron under this plan during the year. One former University Reserve Trainee Plan cadet transferred to the R.O.T.P. during the year. Four additional serving airmen were also accepted into the Faculty of Engineering. Thirteen cadets were enrolled in the University Reserve Training Plan. This includes two females. The squadron strength is now 96 Flight Cadets, six staff officers and one clerk.

Twelve cadets completed their training and were promoted to the rank of Pilot Officer.

Of the group graduating in May, 1958 eight are beginning a career with the RCAF. This includes one medical graduate who was subsidized by the Air Force during his final year at University.

An interesting program of lectures, films, tours and sports was carried out during the winter. Some drill and an extensive program of rifle shooting were included. The University of Alberta retained the rifle shooting trophy in competition with other University squadrons. The instruction was carried out on Wednesday evenings in the University gymnasium and 64 hours were logged during the year.

The principal social activities undertaken by the squadron were two mess dinners, one held in the fall and one in the spring. Commission scrolls were given the graduating members and trophies were presented at the spring dinner. The squadron also joined with the other two services in a smoker at HMCS Nonsuch, the "Military Mixer" dance held as a Tri-Service Week function in the gymnasium, the Tri-Service Ball held at Tactical Air Command this year, and in a band concert held in Convocation Hall featuring the Tactical Air Command band under the direction of F/L Friberg.

An airlift to Cold Lake and tour of that station gave 8 university staff and 12 students a look at the Air Force program of training and development.

The Reserve Officers' School for indoctrination of first year male cadets will be held at Collège Militaire Royale, St. Jean, P.Q. during May and June 1958. Female cadets will attend a similar school at London, Ontario.

Four senior cadets have been chosen for overseas posting for the summer. This is a distinction, since postings for overseas are few and highly competitive. The other cadets will be sent to various stations across Canada for training and employment.

W/C B. E. Riedel, S/L Crighton and F/L Anton will be on staff at St. Jean.

Report of Lt. Cdr. R. S. Van Alstine, R.C.N.(R), Commanding Officer, University Naval Training Division

Twenty cadets completed summer training at Ottawa, Esquimalt, Halifax and Montreal in September 1957.

A/Lt. J. D. Vincent, RCN, replaced Inst. Lt. L. Cottrell, RCN as Resident Staff Officer on the University Campus. The Commanding Officer was LCDR R. S. Van Alstine RCN(R). His training Officers were Lt. T. S. Millman RCN(R), Lt. J. C. Butt RCN(R), Lt. J. Lingas RCN(R), S/Lt. L. D. Hyndman RCN(R), S/Lt. D. A. King RCN(R), A/S/Lt. E. Maltais, A/S/Lt. G. R.

Kuder, with A/Lt. R. Pritchard acting as medical officer and Chap. II J. R. McGrane and Chap. II W. Sewell acting in their capacities as R.C. and Prot, chaplains, respectively.

Ten students were recruited as Probationary cadets in the fall of 1957, and 8 of these were successful in passing the Selection Boards in January of 1958. Two R.O.T.P. cadets were present at the beginning of the 1957-58 term but one has left school; the other is in his 4th and final year. In addition to the regular weekly parades held at H.M.C.S. "Nonsuch", the following special events were held: Remembrance Day Parade and Service, Trafalgar Day Parade, Lt. Governor's New Year Levee, Tri-Service Ball (formal), Mess Dinner, Tri-Service Dance at Drill Hall (free to students), Tri-Service smoker and other informal functions. The Flag Officer, Naval Divisions, made his annual inspection as did LCDR N. D. Langham RCN, Staff Officer, Naval Divisions who in his report to headquarters on U.N.T.D. in the University of Alberta, made the following remark:

"The training organization and practical training is very good as is evident by the results of summer training. Full use is made of past experience and future planning . . . a model U.N.T.D."

Two delegates from the U.N.T.D. sat on the Tri-Service Mess Committee, one of them as president for the first part of the year. Throughout the year the U.N.T.D. remained active with this committee.

The Tri-Service Week which had been planned the previous year failed to materialize but for the Band Concert given by the Tactical Air Command Band and the Tri-Service Dance, to which all students were invited, attendance free. It is felt that little will be done re: Tri-Service Week next year.

The present strength of the Division is as follows:

First year	8
Second year	4
Third year	5
Fourth year	1
Cadets on leave of absence	2

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20

Report of Mr. D. D. Campbell, Director of the Department of Extension

I have the honor to submit the forty-fifth annual report on the extension activities of the University for the year ending March 31, 1958.

One of the important characteristics of the University of Alberta during the tenure of office of its first president, Henry Marshall Tory, was the close contact which existed then between all members of the staff and the community—the Alberta community—which the president felt it to be the University's responsibility to serve. This is no less the case today. Members of the staff of the University are in constant demand by urban and rural organizations for lectures and demonstrations in their various fields. During the year 1,800 lectures and demonstrations were given to outside groups as well as 100 radio and TV talks. An estimated 80,000 persons met the officers and staff of their University in this way.

As in the past, very generous support has been given by all members of the staff in those courses offered under the aegis of University Extension.

As is proper in any report of extension activities of the University, mention should be made of the very considerable effort from student and staff alike

which has gone into the preparation of exhibitions, the organization of Varsity Guest Weekend and similar public functions, field days and other occasions on which the general public was a guest of this University.

Short Courses, Classes and Conferences

Table II of the Appendix lists the 210 short courses, classes and conferences arranged during the year under review. As will be noted, they vary considerably. For the most part, these are in response to specific demands made by the community. It is of interest to compare the growth in this type of adult education presentation with 1948, during which a total of 56 classes were offered to 3,100 people; and 1953, when 126 classes were offered to 4,900 people.

Farm leaders are very conscious that while western Canadian agriculture stands in need of many things, effective leadership in their ranks is important. "Leadership" itself is difficult of definition and a difficult field in which to offer training. There is reason however, to feel that some useful experimental work has been done and progress made over the last year in broadening the understanding and sharpening the tools which make a rural young man or woman effective in those organizations which represent him and his fellows. In this area of effort, attention should be drawn to the Annual Farm Young People's Week which drew 116 rural young men and women to the Campus and to the Eighth Annual Rural Leadership Course which, this year, provided an opportunity to the nominees of the producer co-operatives and the Farmers' Union to study and practise leadership techniques. This strenuous course which now meets regularly in the late fall, annually attracts a well-balanced and vigorous group of about forty young farm people. In another age group, a leadership training course, held at Banff in March of this year, was well regarded both by the students and by the farm organizations through whose scholarship assistance, forty-six men and women between the ages of 35 and 55 attended. This course proposed to examine the rural community in this period of rapid change, to consider some of the important agriculture problems facing farmers in the West, to practise those skills of the leader which are "the grease" to the wheels of organizational machinery and thus to provide some of the background information materials which the leader must use and assistance in developing the skills through which he works. It is a source of very great satisfaction indeed to note here the cooperation of farm organizations in this province without whose assistance this training would not be possible.

As this province develops and as other agencies find themselves in this position to offer leadership in the field of adult education, the work of the University Extension will change in direction and emphasis. In anticipation of a need for coordination of effort and for joint action of organizations interested in adult education, a province-wide conference was arranged, attended by seventy-five representatives of thirty-four agencies. This conference, on an annual basis, offers an important framework in which to discuss and tackle mutual problems.

As other institutions in various parts of the province affiliate with the University, it will be the responsibility of this Department to work with them in providing adult education programs to meet the needs in their community. In cooperation with the Lethbridge Junior College this year, University Extension was responsible for a small program of four courses which were well received by a group of 135 students from Lethbridge and a wide surrounding area.

This year, in association with the Department of Public Welfare and the Canadian Association of Social Workers, University Extension embarked on a

three-year certificate course in Social Welfare. Currently 105 students are enrolled in a training program of some 200 hours duration, dealing with an introduction to the field, Case Work, Community Organizations, Public Welfare and Human Growth and Development.

A scrutiny of Table II also suggests the beginnings of series of concentrated and carefully defined training programs at a high level for people in the various professions. Health and Human Relations in Business and Industry—a course for nursing and medical personnel in industry—was well received by the students who attended. In the field of accounting, a course in Administrative and Financial Controls, conducted by members of the staff of the School of Commerce, offered an analysis of the problems in this field. Fifty-seven students were enrolled in this thirty-hour course. Increasing attention is being given in all of these to the provision of classroom aids including films and reference books and readings for the student.

The evening class program which is a basic traditional part of University Extension offerings, this year included forty courses attended by 1,063 students in Edmonton, Calgary, Lethbridge and Medicine Hat. Among the new courses offered this year were those in 'Logic in Theory and Practice', 'The Symphony and its Literature', 'Ways of Mankind', (a new discussion-type course in liberal studies which will be offered more frequently in the future) and 'Psychology of Personal and Social Adjustment'. Two courses in Calgary and Edmonton, designed to provide an introduction to the field of television for aspiring writers, were offered under the direction of an outstanding instructor, John Barnes of the CBC.

Agricultural Extension

Short courses, the special lecture and the bulletin continue to be the most useful forms of contact with the rural people. During the year, 32,167 bulletins, circulars and leaflets were distributed through a mailing list and by the District Agriculturists.

In addition to this service, 1,357 requests were received from new correspondents and 512 enquiries for specific information were referred to other departments. Sixty-eight enquiries regarding problems relating to participation in and the conduct of meetings by volunteer organizations were dealt with by the Department.

Citizens' Forum

Although the regular mailing list dropped in number from 148 in 1956-57 to 143 this year, the number of study pamphlets distributed rose from 2,425 to 2,574. It would appear that the audience for this feature is inclined to be selective.

The New Trail

The New Trail, a quarterly University and alumni publication, appeared as four issues during 1957-58. Approximately 10,000 copies were mailed to paid-up members of the General Alumni Association and Friends of the University in Canada, the United States and abroad.

The magazine serves as a tangible link between University graduates and their Alma Mater. The content of *The New Trail* is given over almost exclusively to University and alumni news.

In addition to *The New Trail*, *The Pathfinder*, a four-page University and

alumni news sheet, goes out to several thousands of graduates who are not paid-up members of the G.A.A.

Radio Extension Work

University staff members were responsible for 143 talks and 12 organ recitals, broadcast by CKUA from the Campus studios during the year under review. Science talks were very popular as were the series entitled "Two on the Aisle", "Men and Letters" and "My Saturday Evening Concert". For the first time, thirty seven of the talks given in an evening program were subsequently re-broadcast during morning transmissions.

Extension Library

(See Table III)

For over forty years, the Extension Library has offered library service to the residents of Alberta who have no other access to such service. Books are sent by mail from the open shelf to individuals, families and study groups, and in travelling library boxes to community organizations of all kinds. From its shelves it prepared the library which services the Banff School of Fine Arts Annual Summer Session. The Extension Library service of the University is of fundamental importance as a base to university extension activity and to adult education in general across the province.

During the year ended March 31, 1958, total circulation increased over the previous year by about 14 per cent from 107,184 to 122,700. This increase of 15,516 is made up of some decrease in the use of Travelling Libraries and a heavy increase in the use of Open Shelf books. In 1957-58, 58,769 adult books (including periodicals and pamphlets) and 20,404 children's books were sent out, representing an increase of about 21 per cent and almost 194 per cent respectively.

The heavy increase in Open Shelf circulation of children's books is gratifying but does pose a challenge to the resources of the library. It is anticipated that as new school libraries are created and broadened, this problem will be solved.

Although the prime function of the Extension Library is to serve the educational needs of adults, it also has a responsibility to supplement the work of the schools in developing the reading tastes of children and young people and in encouraging them to continue their education after leaving school. That the Extension Library is assuming at least part of this responsibility is evident from letters from parents. One mother remarked that comic books remained unread on the shelf until her children had finished the books from the Library. Another wrote: "I think the Library is wonderful. Patty Lou was a slow reader at school last year. She has improved so much this year." "It has encouraged my children to read and I certainly couldn't have bought all those books. Your service is a wonderful opportunity for those who live in the country."

To students and other readers in the province, access to reference service is, of course, invaluable. The number of reference questions handled by the library shows a significant increase of almost 70% from 873 to 1,481. Inquiries come from readers of all ages, from the eight-year old boy who asks "how to make wooden things" to the old-age pensioner who is interested in the theory of relativity. Many inquiries come from high school students who have essays to write on the United Nations, some aspect of Canadian history, industry or culture. Adult readers taking correspondence or extra-mural courses ask

for books on Canadian and European history and on literature. Typical comments are: "Thank you so very much for all the help you have given me. If I ever do pass Eng. 11 from Queens it will be through you." "Now I must tell you again how much I appreciate the excellent help you have given me with your selection of books. My last essay had a little note from my teacher on it, complimenting me on my excellent selection of reading material. The credit is certainly due to you, and I am most grateful." Other requests come from businessmen, farmers, teachers, housewives—from people throughout the province who need information in their daily work, for a community project, or to satisfy their intellectual curiosity. Readers are interested in almost everything—from earthworms to palimpsests, from gill slits in embryos to reincarnation. Many inquiries are answered by letter, and of these no statistics are kept. Since few readers are able to visit the Library, the volume of correspondence is heavy.

As in past years, the Library supplied books for non-credit courses offered by the Department of Extension and for study groups throughout the province.

Visual Instruction Division

(See Table IV)

All visual aids, including documentary and educational motion pictures, play an important role in both formal and informal educational activities in Alberta. It is a pleasure here to record the high quality of service in this field to organizations and individuals during the year by all members of the staff of the Division.

As has been the case in other film libraries, both in Canada and the United States, the impact of television has reduced circulation temporarily for a period of two to three years. This has been the case in the library of the Visual Instruction Division and circulation figures for 1957-58 suggest that the same pattern will apply in this province as has applied elsewhere. Circulation has recovered somewhat during this year from a previous decline and in general, films tend to be used more specifically than has been the case in the past. That is to say, film subjects are now being chosen more carefully to meet particular needs of various organizations. The provision of experienced operators, which has been a service of the Division over the years, is no longer so necessary as an increasing number of people become familiar with projection equipment and materials.

There has been a slight decline this year in the use of the Division's stock of slides and film strips which is a reflection of the fact that many more organizations are building up film strip libraries for their day to day use, rather than to a decline in the quality of the material. Complete overhaul of the film strip and slide material has been made this year, including revision of an earlier catalogue for the convenience of borrowers.

Since adequate repair service now exists generally throughout the province the decision was made this year to close down the service section of Visual Instruction Division which was set up in order to accommodate borrowers, particularly school organizations, during the war.

It is a pleasure indeed to record our indebtedness to the National Film Board for the many courtesies which they have extended during the year and for the cordial and mutually profitable relationships which have existed.

Petroleum Industry Training Service

The Petroleum Industry Training Service which is supported financially by the Canadian Petroleum Association, the Canadian Association of Oil Well Drilling Contractors, the Petroleum and Natural Gas Conservation Board and the University of Alberta, has as its purpose the provision of technical training at various levels to persons within the industry. During the year under review, 2,032 employees attended 44 schools offered at twenty-seven points in the province. Emphasis on safety is a fundamental part of the training provided and thus a major responsibility during the year was the organization of twenty-two course demonstrations of techniques dealing with hydrogen sulphide gas. Other courses of similar short duration in equipment handling and maintenance included the 'Fluid End Maintenance of Slush Pumps', 'Care and Handling of Sucker Rod Pumps', 'Blowout Prevention' and 'Gas Metering'. The organization of two committees within the oil industry—the Drilling Training Committee and the Production Training Committee—has made possible a very useful and direct contact between the company units in the field and the Petroleum Industry Training Service.

Several significant courses of a more intensive nature and of a higher level, were offered in Edmonton and Calgary. An 'Operating Agreements Course', dealing with legal problems of the oil industry, was attended by 300 persons in Calgary. The Drillers' Schools, organized this year in Edmonton, have been distinctly successful. Good results were achieved at the 'Safety Supervision Workshop' and 'Treating Oil Field Emulsions' courses, both of which were attended by employees sent in by organizations in the field.

Fine Arts Division

The contribution of the Extension Specialists in painting, music and drama has been and continues to be of prime importance in the development of interest in these fields throughout the province. Of particular satisfaction has been the increasing volume and quality of work done in the Community Art Program. It is a satisfaction too, to note that the theatre is a live and vital thing in Alberta, due in no small measure to the tireless enthusiasm of the many small groups and of the Extension Specialist who is in touch with them. "Teaching the teachers" has been an underlying objective in the program for the past year and it is gratifying to see that many of those who had their first formal instruction in painting, music and drama from the Extension Specialists, are active in the guidance of other new students.

Painting

This year has seen considerable consolidation and some expansion of the Community Art Class Program. One hundred and eighty-nine regular classees were held in 24 instruction centres with a total registration of 575. Alternating with the regular classes under the instruction of the Extension Specialist, 57 local classes were held under the direction of a 'Local Supervisor' working from an instruction outline prepared in advance by the Department.

Considerable emphasis has been given this year to the preparation of instructional materials including color slides, exhibitions, and appropriate audio-visual and library aids. Exhibitions of paintings from the Community Art Classes are being shown annually at the Canadian National Exhibition and exchanged with similar groups in the United States. Particular mention should be made of two Community Art Class Conferences arranged by the Department and held in Lethbridge and Edmonton. These provided an opportunity for 100

student artists throughout the province to meet and discuss matters of mutual concern and to hear expert criticism of the various items offered for exhibition.

Drama

The Dominion Drama Festival held in May of this year was attended by the largest group in the history of this organization. This, and the quality of work presented by Alberta players, suggests the general public interest in drama provincially.

The Extension Specialist in Drama is of course very much involved in drama organization in the province. Two district One-Act play festivals were held this year and a regional festival was held in Calgary in March. It is of particular interest to note that two of the plays presented at this festival were offered by the Red Deer and Coaldale communities by groups both of which were developed as a result of the Extension drama program. The Coaldale Little Theatre received the 'Best Play', 'Best Director', and 'Best Supporting Actor' awards and its production has been chosen to participate in the Dominion festival. Its director was named by the adjudicator as the outstanding director of the sixty plays which he saw across Canada. This marked the first time that a small town theatre has won a regional festival and has been invited to compete in the national finals. The example will do much to stimulate greater effort in small towns across Canada.

The growth of interest in Alberta has enabled the extension drama program to be broadened by the provision of longer courses and extra courses where qualified teaching personnel can be found.

In May, two ten-day courses in Voice and Speech were given in Edmonton, with Miss Esme Crampton as instructor. The courses proved extremely popular and worthwhile. There is every indication that the demand for speech training would justify the appointment of a qualified speech instructor in Extension Drama in the near future.

Two ten-week courses were given at the Calgary Branch of the University of Alberta, 'Acting' with Miss Irene Powlan as instructor and 'Makeup' with Mr. Herbert Earle as instructor. One ten-week course in 'Makeup' was given in Edmonton by Mr. Gerald Baril and a second ten-week course on 'Shaw and the Theatre' with Mr. Daniel Walsh as instructor, starting in March, at the Lethbridge Junior College. The response to these courses is such that it warrants the development of regular elementary and advanced courses in various phases of theatre training in these centres.

Two ten-day theatre courses were given in Athabasca during the year. The first centred around a production of "Stampede" by Gwen Pharis Ringwood; the second around a production of "The Man Who Came to Dinner", which showed a remarkable advance in acting and production, certainly on a par with Festival entries this year.

Similar projects started in Olds in March—with a ten-week course this spring to be followed by a production in the fall.

Perhaps one of the most interesting projects during the year was a six-week course in 'Acting' in Edson which was followed by a five-week course in 'Group Playmaking'. This is the first community to become interested in this type of work and it is hoped that other communities will become interested after they have read the script resulting from this course.

It is worthwhile noting here the trend towards courses of a more thoroughgoing nature and longer duration. Much work remains to be done at

the "grass roots" level but it is necessary and desirable to gradually introduce specialized courses at a higher level for more advanced groups. Plans are in progress to offer an Annual Theatre Conference in cooperation with the Drama Division of the Department of Fine Arts. This will present outstanding persons in theatre, particularly to advanced students in provincial drama groups.

As in past years, adjudications were offered in various Alberta centres and the Extension Drama Specialist was invited to adjudicate at the Greater Vancouver Drama Festival. Considerable time has been given to several special projects including the direction of "The Mikado" for the Centennial Committee in Dawson Creek. The 1956-57 Playwriting Competition conducted by the Department for a prize offered by the I.O.D.E. continues to give encouragement to this important theatre skill.

Music

Emphasis in training this year in the extension music program has been the organization of permanent courses of ten-weeks' duration in Choral Music. Three of these centred in the Lethbridge area serving choral leaders from Taber, Picture Butte and the city of Lethbridge itself. As has been the experience in other years, permanent choral groups were organized as a direct result of this stimulus. Content of these series includes instruction in vocal production, breathing, diction and conducting. Twenty or more items of good choral music are studied as well.

An intensive three day Master Class for Organists was arranged for the latter part of August. The class, which was held in Convocation Hall, was under the direction of Gerald Bales, one of Canada's outstanding organists. An informal lecture-recital was presented by the Department, featuring Leon Goossens, oboeist, and Denis Matthews, pianist. This was well received indeed and it is felt that a series of these would make a significant contribution to the music life of many Alberta centres.

During the year under review, a thorough examination of the need for instrumental instruction was made. Instrumental instruction has not, unfortunately, developed as rapidly as choral work in the province as inadequate leadership is often entirely lacking. Several communities have been assisted in their efforts to initiate band programs in association with the schools.

The Second Annual Peace River Choral Festival which stemmed out of a series of Choral Workshops held recently in this area, was given direction by the Extension Specialist in Music. Five community choruses participated. They had been prepared for the event by Miss Bridget Headley, who this year and in the past, has done an excellent job of instruction for the Department. A Wind Quintet for Edmonton supplemented the program.

Informal advisory service has been given to choir directors, school music teachers and others.

Staff

University Extension, by its very nature, is cooperative and it is important to record here the enthusiasm, assistance and painstaking effort given by all members of the staff of the University. This, coupled with the usual courteous cooperation of business and professional organizations, farm organizations and others, has made possible a broad program of offerings to the public. The success of this year's program, as of that of any other year, depends entirely on the close cooperation of members of the University staff and of members of the community which the University serves.

Particular mention should be made of the special efforts given by all members of the staff of the Department of Extension in their work. All have carried a heavy load cheerfully and well. During the year in review, Miss Mary Dodds was appointed Extension Librarian. Mr. G. T. Potter, a graduate of Oxford and former member of that University's Extra-mural Delegacy, joined the staff as Extension Assistant. Mr. Walter Gabert succeeded Mr. Frank Gee in the capacity of Drilling Training Instructor in the Petroleum Industry Training Service.

Conclusion

Earlier reports of this Department have emphasized some of those principles by which University Extension is guided. Chief of these is the recognition by members of the University staff that all members of the constituency which the University serves should have direct access to its resources.

As Sir Arthur Currie of McGill University said many years ago, "The primary task of education is to make men alive, to send them out alive at more points, alive on higher levels, alive in more effective ways. The purpose of an education is not the mere getting of the ability to sell your efforts at a higher figure than untrained men do but to make you a thinker, to make you a creator, with an enlarged capacity for life."

The accomplishment of these aims is one of the challenges to University extension. This report suggests some successes and indirectly some other important goals for the future.

Table I—Record of Extension Activities during year 1957/8

Faculty or Department	Lectures or Demonstrations		Radio or TV Talks		Estimated Aggregate Lecture Attendance		Staff members reporting	
	1956/7		1956/7		1956/7		1956/7	
	1957/8	1957/8	1957/8	1957/8	1957/8	1957/8	1957/8	1957/8
Agriculture	140	143	8	16	17,365	26,190	19	17
Arts and Science (incl. School of House. Ec.)	272	231	64	43	28,403	13,245	45	52
Dentistry	11	7	1	.....	600	225	3	2
Education	157	189	20	14	16,902	9,471	16	19
Engineering	26	11	.....	1	1,030	565	8	11
Law	3	2	.....	.....	300	150	2	2
Medicine (incl. School of Nursing)	166	200	18	14	6,371	5,042	24	22
Pharmacy	34	34	.....	.....	3,555	2,170	4	3
School of Commerce	191	159	1	3	3,378	3,285	4	3
School of Physical Education	22	24	7	6	1,073	1,915	4	4
Department of Extension	718	895	29	20	21,666	23,966	22	12
Totals	1,740	1,895	148	117	100,643	86,224	141	147

Table II—Short Courses, Classes, Workshops and Conferences Arranged and Organized by the Department of Extension

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Hours	Attend- ance
A. EVENING DIVISION					
1. Beginner's Russian		Edmonton	Oct. 21-Apr. 10	80	12
2. Effective Reading		Edmonton	Oct. 21-Jan. 27	20	22
3. Commercial Law		Edmonton	Oct. 28-Feb. 17	18	22
4. Logic in Theory and Practice		Edmonton	Oct. 21-Feb. 3	18	52
5. Income Tax Procedures in Business		Edmonton	Jan. 13-Mar. 17	20	22
6. The Symphony and Its Literature		Edmonton	Jan. 13-Mar. 17	20	59
7. Conversational French		Edmonton	Oct. 22-Feb. 25	22½	36
8. Psychology of Personal and Social Adjustment					
9. Public Speaking		Edmonton	Oct. 22-Feb. 25	22½	42
10. Chairmanship		Edmonton	Oct. 15-Dec. 17	20	27
11. Essentials of Written English		Edmonton	Jan. 14-Mar. 18	20	26
12. Short Story Writing		Edmonton	Oct. 23-Mar. 12	27	21
13. Effective Reading		Edmonton	Oct. 23-Mar. 12	27	34
14. Sex, Marriage and Morals		Edmonton	Oct. 23-Jan. 29	20	26
15. Comparative Religion 11		Edmonton	Jan. 15-Mar. 5	27	20
16. Ways of Mankind		Edmonton	Jan. 15-Mar. 5	16	32
17. Elementary Security Analysis		Edmonton	Jan. 15-Apr. 2	18	20
18. Conversational French—Senior Seminar		Edmonton	Oct. 17-Dec. 5	16	17
19. Introduction to Geology		Edmonton	Oct. 24-Feb. 27	22	9
20. The Art of Landscaping		Edmonton	Jan. 16-Apr. 3	18	38
21. Life Painting		Edmonton	Jan. 16-Apr. 3	18	50
22. Fundamentals of Drawing		Edmonton	Oct. 21-Mar. 17	34	13
23. Pottery		Edmonton	Oct. 21-Mar. 17	34	26
24. Pottery		Edmonton	Oct. 31-Mar. 27	60	12
25. Portrait Painting		Edmonton	Oct. 29-Mar. 25	60	12
26. Advanced Life Drawing		Edmonton	Oct. 22-Mar. 11	36	18
27. Pictorial Composition		Edmonton	Oct. 23-Mar. 12	36	14
28. Still Life		Edmonton	Oct. 23-Mar. 12	36	33
29. Modelling and Sculpture		Edmonton	Oct. 24-Mar. 13	36	12
30. Income Tax Procedures in Business		Edmonton	Oct. 24-Mar. 27	40	18
31. Conversational French		Calgary	Jan. 20-Mar. 27	20	22
32. Principles of Gardening		Calgary	Jan. 20-Apr. 7	24	32
33. Law in Action		Calgary	Jan. 21-Apr. 8	24	32
34. The Beginnings of Philosophy		Calgary	Jan. 21-Mar. 25	20	26
35. Ways of Mankind		Calgary	Jan. 22-Apr. 8	24	31
36. Problems of Social Psychology		Calgary	Jan. 22-Mar. 26	24	24
37. Landscaping the Small Lot		Calgary	Jan. 23-Apr. 24	28	40
38. Psychology of Personality and Adjustment		Calgary	Jan. 15-Apr. 16	28	21
	Medicine Hat District Horticultural Society	Medicine Hat	Jan. 17-Mar. 21	20	25
	Lethbridge Junior College	Lethbridge			
39. Conversational Spanish		Lethbridge	Jan. 27-Mar. 31	20	42
40. Law for the Layman		Lethbridge	Jan. 30-Apr. 3	20	23

B. RURAL, COMMUNITY AND AGRICULTURAL SHORT COURSES AND CONFERENCES

41. Farm Young People's Week	Faculty of Agriculture, School of Household Economics	Edmonton	Jun. 4-Jun. 12	48	116
42. Community Forum	Hanna Community	Hanna	Aug. 22-Aug. 24	18	46
43. Leadership Course	Jr. Chamber of Commerce	Camrose	Oct. 2-Nov. 20	16	23
44. Leadership Techniques	A.W.P., U.G.G., F.U.A., U.F.A. Co-op	Banff	Oct. 27-Nov. 9	88	41
45. Enquiry Into Leadership	Junior Chamber of Commerce	Edmonton	Oct. 15-Dec. 16	20	21
46. Agricultural Short Course for Indians	Department of Indian Affairs	Saddle Lake	Feb. 24-Feb. 28	20	20
47. Leadership Training—Senior	A.W.P., F.U.A., U.G.G.	Banff	Mar. 3-Mar. 15	72	45
48. Alberta Adult Education Conference	Provincial Educational Services	Banff	May 17-May 18	12	75
49. Community Leadership	Lions Club	Bears paw	Mar. 25-Mar. 26	10	22
50. A.L.C. Shipping Course	Alberta Livestock Co-op.	Edmonton	Mar. 24-Mar. 25	12	38
51. A.L.C. Shipping Course	Alberta Livestock Co-op.	Edmonton	Mar. 27-Mar. 28	12	45

C. FINE ARTS, EXTENSION CLASSES AND WORKSHOPS

52. Community Art Classes	Vulcan	Apr. -Mar. 31	28	16
53. Community Art Classes	Nanton	Apr. 1-Mar. 31	37	38
54. Community Art Classes	Cardston	Nov. 26-Mar. 31	20	20
55. Community Art Classes	Lethbridge	Apr. 3-Mar. 31	32	32
56. Community Art Classes	Ralston	Apr. 4-Mar. 31	31	16
57. Community Art Classes	Medicine Hat	Apr. 5-Mar. 31	21	17
58. Community Art Classes	Medicine Hat	Apr. 5-Mar. 31	20	16
59. Community Art Classes	Medicine Hat	Apr. 5-Mar. 31	20	16
60. Community Art Classes	Medicine Hat	Apr. 5-Mar. 31	20	16
61. Community Art Classes	Medicine Hat	Apr. 5-Mar. 31	20	11
62. Community Art Classes	Brooks	Nov. 6-Mar. 31	18	14
63. Community Art Classes	Drumheller	Oct. 9-Mar. 31	30	16
64. Community Art Classes	Castor	Apr. 10-Mar. 31	28	30
65. Community Art Classes	Lacombe	Apr. 11-Mar. 31	27	21
66. Community Art Classes	Banff	Apr. 17-Mar. 31	32	15
67. Community Art Classes	Banff	Apr. 3-Mar. 31	28	14
68. Community Art Classes	Sylvan Lake	Apr. 8-Mar. 31	27	38
69. Community Art Classes	Red Deer	Apr. 12-Mar. 31	28	15
70. Community Art Classes	Wetaskiwin	Apr. 13-Mar. 31	26	12
71. Community Art Classes	Camrose	Apr. 13-Mar. 31	26	21
72. Community Art Classes	Grande Prairie	Oct. 7-Mar. 31	20	16
73. Community Art Classes	Lloydminster	Oct. 9-Mar. 31	42	44
Intensive Short Course	Lloydminster	May 6-May 11	21	16
74. Community Art Classes	Lloydminster	May 6-May 11	21	16
Intensive Short Course	Vermilion	Mar. 10-Mar. 11	8	25
75. Community Art Classes	Viking	Oct. 10-Mar. 31	22	21
76. Community Art Classes	Redcliff	Nov. 30-Mar. 31	10	21
77. Community Art Classes	Athabasca	Oct. 11-Mar. 31	20	22
78. Community Art Classes	Ft. Sask., Edmonton	Oct. 22-Mar. 31	18	16
79. Community Art Class Conference		May 18	8	45
80. Community Art Class Conference	Lethbridge	May 4	8	56

Table II—continued

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
81. Choral Workshops	Lethbridge Junior College	Lethbridge	Oct. 15-Dec. 17	20	23
82. Choral Workshops	Home and School Association	Taber	Oct. 14-Dec. 16	20	42
83. Choral Workshops	L.D.S. Church	Picture Butte	Oct. 16-Dec. 18	20	26
84. Conductor's Workshop		Edmonton	Sep. 21-Nov. 23	15	27
85. Master Class for Organists and Choirmasters	Canadian College of Organists	Edmonton	Aug. 28-Aug. 30	15	19
86. Lecture-Recital		Edmonton	Nov. 8	3	250
87. L. Goossens, D. Matthews		Viking	Jan. 10-Mar. 14	20	44
88. Choral Workshop		Red Deer	Jan. 21-Mar. 25	20	36
89. Choral Workshop		Wetaskiwin	Jan. 20-Mar. 24	20	38
90. Peace River Choral Festival	Festival Committee	Peace River	Mar. 14-Apr. 21	50	100
91. Voice and Speech Course		Edmonton	May 27-Jun. 7	20	11
92. Voice and Speech Course		Edmonton	May 27-Jun. 7	20	24
93. Acting Workshop		Edmonton	May 27-Jun. 7	20	24
94. Acting Workshop		Athabasca	Oct. 1-Dec. 3	20	15
95. Acting Workshop		Edson	Oct. 9-Nov. 20	12	11
96. Makeup Workshop		Edson	Jan. 6-Mar. 10	20	14
97. Playwriting		Calgary	Jan. 7-Mar. 11	20	14
98. Makeup Workshop		Edson	Jan. 22-Feb. 19	10	6
99. Shaw and the Theatre		Edmonton	Feb. 3-Apr. 7	12	37
100. Acting and Makeup		Edmonton	Mar. 17-Jun. 2	20	11
101. Acting and Makeup		Edmonton	Mar. 26-May 28	20	10
102. Public Speaking		Edmonton	Mar. 27-May 29	20	26
103. Acting	School of Nursing	Lethbridge	Oct. 8-Dec. 10	20	27
104. Theatre Workshop	Recreation Commission	Edmonton	Oct. 8-Apr.	20	15
	Ralston Experimental Players	Ralston	Jan. 15-Jan. 17	18	12
D. BUSINESS, INDUSTRIAL AND PROFESSIONAL COURSES					
105. Television Production and Techniques	Alberta Real Estate Association	Edmonton	Apr. 18-Apr. 20	24	23
106. Television Production and Techniques	Alberta Real Estate Association	Calgary	Apr. 25-Apr. 27	24	25
107. Real Estate Principles and Practice	Alberta Real Estate Association	Edmonton	May 27-May 31	25	24
108. Real Estate Principles and Practice	Dep't. of Education the Alberta School Secretaries Ass'n. A.S.T.A.	Calgary	Jun. 3-Jun. 7	25	33
109. School Administration		Banff	Jun. 11-Jun 13	16	125
110. Municipal Administration	Dep't. Municipal Affairs, A.A.M.S.T.	Banff	Jun. 13-Jun. 15	15	67
111. Teaching Basic English	Dep't. Citizenship and Immigration	Edmonton	Sep. 18-Sep. 19	8	24
112. Teaching Basic English	Dep't. Citizenship and Immigration	Calgary	Sep. 20-Sep. 21	12	31
113. Clinical Care for Chiroprodists	Alberta Chiroprody Association	Edmonton	Sep. 9-Sep. 11	16½	16
114. Accounting 1	Society of Industrial and Cost Accountants	Edmonton	Oct. 10-Mar. 13	40	33
115. Accounting 1	Society of Industrial and Cost Accountants	Edmonton	Oct. 20-Mar. 13	40	36
116. Accounting 11	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 11	40	45
117. Advanced Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 21	40	33
118. Business Mathematics	Society of Industrial and Cost Accountants	Edmonton	Oct. 10-Mar 13	40	24
119. Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 7-Mar. 24	40	32

120.	Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 7-Mar. 24	40	36
121.	Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 14-Mar. 24	40	37
122.	Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 25-Mar. 28	40	23
123.	Accounting 1	Society of Industrial and Cost Accountants	Calgary	Oct. 7-Mar. 24	40	33
124.	Accounting 1	Society of Industrial and Cost Accountants	Calgary	Oct. 7-Mar. 24	40	42
125.	Accounting 1	Society of Industrial and Cost Accountants	Calgary	Oct. 7-Mar. 24	40	18
126.	Accounting 11	Society of Industrial and Cost Accountants	Calgary	Oct. 7-Mar. 24	40	42
127.	Accounting 11	Society of Industrial and Cost Accountants	Calgary	Oct. 7-Mar. 24	40	44
128.	Advanced Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 9-Mar. 12	40	24
129.	Business Mathematics	Society of Industrial and Cost Accountants	Calgary	Oct. 11-Mar. 21	40	26
130.	Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 10-Mar. 20	40	40
131.	Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 10-Mar. 20	40	37
132.	Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 10-Mar. 20	40	34
133.	Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 10-Mar. 20	40	38
134.	Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 10-Mar. 13	40	32
135.	Stocks and Bonds	Investment Dealers' Ass'n. of Canada	Correspondence	Oct. 1-Mar. 31	30	132
136.	Teaching the Retarded Child	Edmonton Ass'n for Retarded Children and Faculty of Education	Edmonton	Nov. 15-Mar. 21	40	22
137.	Certificate Course in Social Welfare —Class 1—Part A	Citizenship Br., Dept. Citizen. and Immig.	Edmonton	Jan. 16-Apr. 3	24	35
138.	Understanding the Immigrant	Citizenship Br., Dept. Citizen. and Immig.	Edmonton	Feb. 3	6	23
139.	Understanding the Immigrant	Citizenship Br., Dept. Citizen. and Immig.	Red Deer	Feb. 4	6	7
140.	Understanding the Immigrant	Citizenship Br., Dept. Citizen. and Immig.	Calgary	Feb. 5	6	20
141.	Understanding the Immigrant	Citizenship Br., Dept. Citizen. and Immig.	Lethbridge	Feb. 7	6	19
142.	Prospecting	C.I.M.M. (Northern Alberta Branch) Alberta and Northwest Chamber of Mines	Edmonton	Jan. 14-Feb. 27	28	52
143.	Administrative and Financial Controls	School of Commerce	Edmonton	Jan. 27-May 5	30	57
144.	Managing Investments	Investment Dealers Ass'n. of Canada	Edmonton	Jan. 28-Mar. 11	14	80
145.	Managing Investments	Investment Dealers Ass'n. of Canada	Calgary	Jan. 28-Mar. 11	14	82
146.	Managing Investments	Investment Dealers Ass'n. of Canada	Lethbridge	Jan. 29-Feb. 26	8	45
147.	Financial Statement Analysis	Jr. Chamber of Commerce	Calgary	Jan. 29-Feb. 2	20	24
148.	Health and Human Relations in Business and Industry	School of Commerce	Edmonton	Feb. 5-Apr. 13	20	20
149.	Building or Buying Your Home	Alberta Institute of Chartered Accountants	Edmonton	Feb. 6-Mar. 13	12	67
150.	English Usage	Alberta Institute of Chartered Accountants	Edmonton	Jan. 18-Mar. 15	16	35
151.	English Usage	Alberta Institute of Chartered Accountants	Correspondence	Jan. 18-Mar. 15	16	14
152.	Job Instruction Training	Jr. Chamber of Commerce	Calgary	Mar. 29-May 24	16	28
153.	Job Relations Training	Jr. Chamber of Commerce	Calgary	Nov. 14-Dec. 19	12	28
154.	Short Course For Librarians of Small Libraries	Alberta Library Association	Edmonton	Jan. 16-Feb. 20	12	28
155.	Canadian Drilling Technology School	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	May 21-May 24	19	8
156.	Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Apr. 23-Apr. 27	30	148
157.	Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Olds	May 23	3	27
158.	Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Drayton Valley	Jun. 4	6	43
159.	Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Buck Lake	Jun. 6	6	13

Table II—continued

Short Course, Class, Conference or Workshop	Co-sponsors	Location	Period	Attendance	Hours
160. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Rimbey	Jun. 11	6	14
161. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Red Deer	Jun. 12	5	66
162. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Sundre	Jun. 13	6	18
163. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Calgary	Jun. 18	3	23
164. Care and Handling Sucker Rod Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Drayton Valley	Jun. 19	5	13
165. Electricity and Electrified Lease operations	P.N.G.C.B., C.P.A., C.A.O.D.C.	Drayton Valley	Jun. 28	30	25
166. Electricity and Electrified Lease operations	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Jul. 2-Jul. 6	30	35
167. Care and Handling Sucker Rod Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Devon	Jul. 2	3	15
168. Care and Handling Sucker Rod Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Redwater	Jul. 3	3	8
169. Care and Handling Sucker Rod Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Red Deer	Jul. 5	3	15
170. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Whitecourt	Jul. 17	6	14
171. Fluid End Maintenance of Slush Pumps	P.N.G.C.B., C.P.A., C.A.O.D.C.	Valleyview	Jul. 19	6	7
172. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Whitecourt	Aug. 7	2	11
173. Supervisory Training	P.N.G.C.B., C.P.A., C.A.O.D.C.	Whitecourt	Aug. 8	6	7
174. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Black Diamond	Aug. 17	4	44
175. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Sullivan Creek	Aug. 18	4	14
176. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Pincher Creek	Aug. 19	4	44
177. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Nanton	Aug. 20	4	20
178. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Calgary	Aug. 21	2	24
179. Trident Drilling School	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Sep. 9-Sep. 13	15	9
180. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Drayton Valley	Sep. 17	4	28
181. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Breton	Sep. 18	4	44
182. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Sep. 19	4	13
183. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Innisfail	Sep. 24	4	48
184. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Sundre	Sep. 25	4	64
185. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Red Deer	Sep. 26	4	74
186. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Camrose	Sep. 26	2	28
187. Safety Supervision	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Oct. 7-Oct. 11	30	34
188. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Valley View	Oct. 15	4	53
189. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Oct. 22	2	10
190. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Wetaskiwin	Oct. 23	2	20
191. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Calgary	Oct. 25	4	16
192. Treating Oilfield Emulsions	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Oct. 28-Nov. 1	30	52

193. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Bowden	Nov. 5	4	24
194. Operating Agreements	P.N.G.C.B., C.P.A., C.A.O.D.C.	Calgary	Nov. 6-Nov. 8	9	301
195. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Estevan	Nov. 20	4	40
196. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Estevan	Nov. 21	6	26
197. Pumper Training	P.N.G.C.B., C.P.A., C.A.O.D.C.	Estevan	Nov. 21-Nov. 23	9	35
198. Slush Pump Maintenance	P.N.G.C.B., C.P.A., C.A.O.D.C.	Swift Current	Nov. 26	3	25
199. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Medicine Hat	Nov. 26	2	10
200. Drillers School	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Jan. 20-Jan. 24	30	8
201. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Red Deer	Feb. 4	6	38
202. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Innisfail	Feb. 5	6	55
203. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Duke Drilling Rig 7	Feb. 7	6	62
204. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Alax Pipeline	Feb. 14	2	15
205. Blowout Prevention	P.N.G.C.B., C.P.A., C.A.O.D.C.	Drayton Valley	Feb. 28	6	55
206. Gas Metering School	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Mar. 6	6	38
207. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Fort St. John	Mar. 13	2	30
208. Supervisory Training	P.N.G.C.B., C.P.A., C.A.O.D.C.	Fort St. John	Mar. 17-Mar. 21	24	32
209. Hydrogen Sulphide Gas	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Mar. 19-Mar. 21	8	90
210. Drillers School	P.N.G.C.B., C.P.A., C.A.O.D.C.	Edmonton	Mar. 24-Mar. 28	30	17

TABLE III—STATISTICAL INFORMATION, EXTENSION LIBRARY

Open Shelf

	1956-57	1957-58	Difference
Adult books	45,833	56,815	10,982
Periodicals and pamphlets	2,577	1,954	—623
Children's books	6,952	20,404	13,452
	55,362	79,173	23,811

Travelling Libraries

No. of Travelling Libraries sent out
(35-40 books per box):

	1956-57	1957-58
Adult	128	103
Mixed Adult and children's)	19	60
Children's	427	382
	574	545

Circulation (Recorded outside the Library)	50,895	43,185	—7,710
<i>Banff School of Fine Arts</i>	927	342	—585

<i>Total Circulation</i>	107,184	122,700	15,516
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<i>Reference questions</i>	873	1,481	608
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Book stock

At April 1, 1957		44,189
Accessions	4,528	
Withdrawals	1,352	3,276
		47,465

Membership

Open Shelf (Estimated number of readers' accounts)	6,800
Travelling Libraries (Number of groups to whom libraries were sent)	227

TABLE IV—STATISTICAL INFORMATION, DIVISION OF VISUAL INSTRUCTION

Film Circulation

	1957-58	1956-57	Comparison
Number of reels silent film sent out	721	656	65
Number of reels sound film sent out	16,293	16,107	186
Total sets of moving pictures sent out	3,997	3,922	75
Total number of showings of films, sound and silent	5,253	5,345	—92
Total audience viewing films	467,132	478,695	—11,563
Number of times projection service supplied	210	254	—44
Number of screenings for groups in screening room	59	48	9

Slides and Filmstrips

	1957-58	1956-57	Comparison
Number of 2x2 slides sent out	122	174	—52
Total audience viewing slides	3,036	4,628	—1,592
Individual filmstrips sent out	3,016	3,368	—352
Total audience viewing strips	66,312	79,907	—13,595

TABLE V—GENERAL STATISTICAL SURVEY

Lectures		
University staff	1,000	
Department of Extension staff	895	
		1,895
Aggregate Attendance		86,224
Number of Radio or TV talks		
University staff	97	
Extension Staff	20	
		117
Conferences and short courses, Ttable II		210
Total attendance		6,988
Feeders' Day attendance	1,500	
Breton Field Day	350	
Field Day, nr. Sundre	40	
Soil Science Field day—2 days	25	
		1,915
Visual Instruction		
Number of 2x2 slides sent out		122
Total audience viewing slides		3,036
Individual filmstrips sent out		3,016
Total audience viewing filmstrips		66,312
Number of reels of silent film sent out		721
Number of reels of sound film sent out		16,293
Total sets of moving picture films sent out		3,997
Total showings of films, sound and silent		5,253
Total audience viewing films		467,132
Number of times projection service supplied		210
Number of screenings for groups in screening room		59
Total number of screenings		269
Library Circulation		
Travelling Libraries		43,185
Open Shelf		
Adult books		56,815
Juvenile books		20,404
Periodicals and pamphlets		1,954
Total		79,173
Study Group Material		
Number of Citizens' Forum Bulletins sent out		2,574
New Canadian Plays		
Number of copies of New Canadian Plays sold		125
Agricultural Extension Publications		
Bulletins, circulars and leaflets		32,167

Report of Senator Donald Cameron, Director of the Banff School of Fine Arts

The year ending March 31st, 1958 marked the conclusion of twenty-five years of continuous operation of the Banff School. It was a year of steady progress and expansion. As more facilities in the way of buildings and equipment become available at the School and as these become better known, more groups and organizations seek to take advantage of them. Altogether some 64 groups

and 5,900 people made use of the School for periods that varied from as little as two days to as much as six to eight weeks during the year.

The largest activity continues to be the Annual Summer Session in the Fine Arts which had a registration of 548 students. These came from nine of the Canadian Provinces, twenty-two States of the United States, two from Norway, two from South America and a sprinkling from other countries.

Courses were offered in Theatre, Painting, Ballet, Opera, Choral, String and Piano music for both teachers and professionals. Courses were also given in Creative Writing, Weaving, Ceramics, Oral French and Photography. A feature in the last few years has been in the growth and strengthening of the Singing, Piano and Ballet divisions. These divisions are attracting students of professional calibre with the result that they set a very high artistic standard for the whole school.

Following the experiment of 1956 when the Opera Company went on tour to Calgary, in 1957 the School took Puccini's Gianni Schichi to Calgary and Edmonton and played to appreciative audiences of 2,000 people in each place.

The increasing quality of the student body is greatly encouraged by the generous contribution of scholarship funds by a large number of business organizations and individuals. The total amount provided during the year amounted to nearly \$12,000.00 which provided 113 scholarships.

While the work in fine arts continues to grow, it is as a centre for continuing education that the School is making its most spectacular strides. Only a few short years ago the school operated a few months of the year but in the year just closed, there were only two weeks out of the 52 when no one was in residence.

In response to a demand from business firms in Western Canada, the Banff School of Advanced Management was established as an experiment in 1952 by the Department of Extension of the University. At the same time, the Universities of British Columbia, Saskatchewan and Manitoba were invited to join the University of Alberta in making this a four-university co-operative effort. This they did in 1953. Today, the Banff School of Advanced Management has an international reputation in the management training field and is now on a sound and permanent basis.

Enrolment in the Management School continued to increase year by year until the annual quota of 70 was filled and a waiting list of 30 or more per year had to be carried forward to the next year. In 1957 it was decided to operate two six-week schools and these were attended by a total of 114 executives from all over Canada and a few from the United States. In addition to the two six-week advanced management courses, a number of related courses of two weeks duration, mainly designed to meet the needs of lower echelons of business and the man who could not get away for six weeks were organized. These courses included two week courses in Personnel Administration, and in Executive Development. In addition, a large number of one week or ten day courses was held. These included a one-week Labour Seminar in January, a Life Insurance Marketing Institute and a whole series of one week, in-service training programmes for Companies like the Shell Oil Co. of Canada, the Alberta Wheat Pool; and Motor Car Supply Co. By way of interest a four-week International Labour Seminar for the Free Trade Unions of the World was held in September 1957. This was attended by 125 men and women from 32 countries and marked the first time in the history of the Banff School when simultaneous translation of lectures into two or three languages was carried out.

The various church organizations, Y.M.C.A. and Y.W.C.A. Citizenship, Home and School hold workshops running from three days to one week, and the Annual Alberta Teacher's Association Workshop is now in its tenth year. From the foregoing it will be seen that in a period of ten years since it has had a nucleus of its own year-round buildings, the Banff School of Fine Arts and Centre for Continuing Education has rapidly become one of the leading adult education centres on the continent. Because demands for the kind of education service the School provides are increasing, plans were made late in 1957 to add another half-million dollar wing to the Administration Building in 1958. Through the combined generosity of the University, the Alberta Government and the Canada Council, \$500,000.00 was provided and the result will be that by January 1st, 1959, a new dining room capable of seating 550 students at a sitting, 14 classrooms, a small library and 22 new bedrooms will be added to the School's facilities. When the present temporary dining rooms are converted into bedrooms as originally planned, comfortable accommodation for another 100 people at a time will be available. The growth of the School in 25 years has been steady and encouraging. As we embark on the second quarter century of public service in the field of adult education, the needs and the opportunities are greater than ever and the Banff School will continue to play an ever increasing role.

Report of Dr. R. D. Stuart, Director, Provincial Laboratory of Public Health, for the year 1957

During 1957 the Provincial Laboratories carried out 444,445 examinations an increase of 47,512 over 1956. This increase is common to both laboratories, amounting in the Edmonton laboratory to 12%, in the Calgary laboratory to 9%. Noticeable increases were recorded in diphtheria and tuberculosis examinations and in gonorrhoea cultures at the Edmonton laboratory, in diagnostic histology at the Calgary laboratory and in antibiotic sensitivity tests at both laboratories.

Special Trends

Of particular interest is the decision of the Department of Public Health to build an extension to the Provincial Laboratory at Edmonton. This was begun in August and should be completed in about one year. The new building will provide space and facilities for the extension of Pathological and Bacteriological services especially in relation to hospital diagnostic work and to technician training. New services in relation to the diagnosis of virus infections are also planned.

The pandemic of Asiatic influenza must also be considered under this heading. A recurrence of infections with this new virus type is now a continuing probability and a trend to an increased incidence and seriousness of staphylococcal infections, referred to in previous reports, must be considered as a corollary. During the last epidemic specimens were received from 17 patients who had died as a result of Asiatic influenza and staphylococcal pneumoniae was the terminal feature in a significant number of deaths. The increasing importance of staphylococcal infections is also instanced in the 242 examinations recorded by the Southern laboratory for staphylococcal enteritis of infants. Dr. Shute emphasizes the value of these examinations to local practitioners.

After much discussion with the Provincial Health Units and the Division of Sanitary Engineering it has been decided to bring the laboratory service for the bacterial examination of water supplies more directly under the control of established organizations. In future all water examinations will have to be

referred to the Provincial Laboratories through established health organizations, and all laboratory reports will be sent directly to them. This will eliminate much of the confusion from the irregular and ill-controlled examinations carried out in the past for private individuals.

New or Supplementary Services

A service for the identification of the recently identified organism *Haemophilus vaginalis* was offered throughout the year. From May to December, 958 specimens were examined in the Edmonton laboratory by Dr. Amies who had made a special study of this organism. The incidence of positives, however, was only 1.25% and physician interest was minimal. Therefore it has been decided that the extra expenditure in time and material is unwarranted and the routine service has been discontinued.

Eighteen technicians from various city hospitals received training experience from the Edmonton laboratory. This is beginning to take the form of special courses but, more importantly, 1957 saw the beginning of an expansion of this service to smaller hospitals outside the city. One technician from Peace River received two weeks training in special hospital bacteriology. Increased use by Provincial Hospitals of the expanded training facilities of the Provincial Laboratory is expected within the new building.

During 1957 a significant expansion occurred in the distribution of sera and vaccines. This particularly involved the Central laboratory which sent out 75,110 packages compared with 33,893 last year. Poliomyelitis Vaccine and Influenza Vaccine accounted for the greatest proportion of this increase.

Regular Services

In Pathology the increase in diagnostic histology observed by Dr. Shute has already been recorded and is paralleled by equivalent numbers in the Central laboratory under Dr. Macgregor. The continuing value of this service is indicated by the fact that in Edmonton 911 cancers were thus diagnosed or confirmed and in Calgary 384 were similarly identified.

The increase in diphtheria suggested as a trend in last year's report has been confirmed this year in the Central laboratory by the isolation of 80 strains of virulent *C. diphtheriae* as compared with 43 last year. Almost 50% of these were of the gravis type which is reputedly of greater epidemic significance. An interesting observation was made on the gradual replacement of a virulent strain by a non-virulent strain of the same type in the closed community of a Boy's Home. The decision to relax quarantine precautions, made feasible by these laboratory findings, was supported by the absence of further clinical cases.

A very large outbreak of food poisoning in Red Deer, with about 200 cases, was investigated in the Central laboratory. Owing to the acute emergency only representative specimens could be obtained for examination but of about 60 specimens received 29 were positive for *S. montevideo*.

The cultural service for the diagnosis of gonorrhoea has extended considerably in the Central laboratory, 2,509 more examinations being carried out than in 1956. With the help of newly developed techniques the percentage of total positives now diagnosed by culture has risen from 83 in 1955 to 95 in 1957. In certain institutions such as the Fort Saskatchewan Gaol the percentage now diagnosed by smear alone has fallen to 0.5%. It may soon be possible to replace by cultural methods the tedious and unreliable smear investigation. Dr. Shute records the reopening of a similar service in the Southern laboratory and anticipates favourable results.

Staff

Dr. G. O. Bain, who had been trained first under Dr. Macgregor in this laboratory and later in the United States, was appointed to the permanent staff as Assistant Pathologist on July 1, 1957.

Dr. C. E. Iland who took up the post of Senior Assistant Bacteriologist on February 1, 1957 resigned at the end of May and returned to Britain. No replacement has yet been found. Considerable help however has been given by Dr. M. E. Williams, a British bacteriologist on a temporary one-year appointment.

TABLE I—EXAMINATIONS PERFORMED IN THE PROVINCIAL
LABORATORIES

	Year 1957	
<i>Control of Common Infections</i>		
Diphtheria	6,287	1,296
Enteric-Dysentery	5,486	2,517
Fungus infections	2,117	126
Intestinal Parasites	263	85
Naso-pharyngitis	9,982	1,569
Tularaemia serology	1,721	897
Tuberculosis	11,298	2,157
Undulant Fever serology	1,721	897
Whooping Cough	24	24
<i>Other diagnostic and miscellaneous</i>		
Animal inoculations (other than T.B.)	285	11
Antibiotic etc. sensitivities—disc	114,191	23,110
..... tube	23	.....
Blood cultures	1,291	176
Leptospirosis	44	.....
Miscellaneous	16,001	3,757
Paul Bunnell test	925	262
P.M. Bacteriology	227	.....
Referred cultures	262	9
Special investigations	7,007	28
Trichomonas	6,133	243
Virus infections	394	.....
<i>Venereal Disease Control</i>		
Chancroid etc.	4	.....
Gonorrhoea—Smears	12,187	6,273
..... Cultures	6,408	284
Syphilis	119,809	36,679
<i>Sanitary Bacteriology</i>		
Food products	28	10
Milk and Cream	3,152	1,938
Water	6,147	5,643
Utensils	2	263

Pathology

Diagnostic cytology—blood smears	213	125
bone marrow	139	19
fluids	315	484
Routine diagnostic histology—specimens	13,712	5,575
Routine diagnostic autopsies	403	6
Medico-legal autopsies	73	.....
Referred diagnostic histology	22	1
Pregnancy Diagnosis—Frog test	640	.....
Rabbit test	46	.....
TOTALS	348,981	94,464

TABLE II—CONTROL OF ENTERIC-DYSENTERY INFECTIONS

<i>Examinations</i>	Edmonton	Calgary
Blood and Clot Cultures	1,726	910
Faeces Cultures	1,824	677
Urine Cultures	43	30
Other examinations	32	.....
Seriological Tests	1,810	897

Details of Isolations

<i>Salmonella</i>		
S. typhosa	20	7
S. paratyphose B	2	1
S. typhi-murium	38	3
S. montevideo	27	2
S. heidelberg	5	7
S. thompson	6	2
Other Salmonellae	4	19
<i>Shigella</i>		
Shigella Sonnei	61	8
Shigella flexneri	11	3
Shigella boydii 2	3	.....

TABLE III—CONTROL OF TUBERCULOSIS

<i>Examinations</i>	Edmonton		Calgary	
Microscopic	5,892		992	
(positive)	(319)		(21)	
Culture	3,499		804	
Animal inoculations	2,422		361	
<i>Specimens</i>	No.	Positive	No.	Positive
Pulmonary	4,231	385	717	13
Meningeal	70	10	20	.....
Renal	639	64	304	7
Other	310	43	180	1

TABLE IV—CONTROL OF SYPHILIS

<i>Bloods</i>	Edmonton	Calgary
Examinations—Presumptive Kahn	95,032	29,641
Standard Kahn	9,921	2,875
Quantitative Kahn	797	185
Wassermann (Kolmer)	12,581	3,079
<i>Cerebro-spinal fluids</i>		
Examinations—Wasserman (Kolmer)	1,479	899
Blood and cerebro-spinal fluid "positive" to reaction	620	159
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	1,609	700
<i>Pre-marital Bloods</i>	11,935	8,068
Positive to reaction	12	7

TABLE V—SANITARY CONTROL, MILK AND CREAM

	Edmonton	Calgary
<i>Milk and Ice-cream</i> (no. of specimens)	1,821	772
Coliform test	974	573
Plate Count	1,699	772
Phosphatase	239	329
Butter fat	233	250
Milk-bottles—etc.	7	14

TABLE VI—SANITARY CONTROL, WATER

	Edmonton	Calgary
<i>Water</i> (no. of specimens)	3,999	2,565
Coliform test—Presumptive	2,158	1,506
Confirmed	1,064	1,266
Special	777	327
Plate count	2,148	2,544
Waters found bacteriologically unsuitable	423	962

Report of Mr. C. E. Noble, Director of the Industrial Laboratories

During the year April 1, 1957 to March 31, 1958, the Department of Provincial Analyst and Industrial Laboratories carried out 10,370 analyses and tests.

Included in the above total were many made for the Government Departments of the Attorney General, Agriculture, Health, Highways, Lands and Minerals, Mines and Forests, Provincial Secretary and Public Works. Control analyses were made for the Alberta Liquor Control Board re beer, wine and liquors and the Breweries were inspected monthly.

Chemical examinations were made for the Provincial Coroner and for pathologists of the Alberta Hospitals, and necessary court evidence given under Dominion and Provincial Acts and Regulations. Exhibits from the various Police Departments were examined and court evidence given as required. The time required for court evidence has more than doubled in the last year. The Veterinary samples and health specimens continued to increase and have doubled in the last three years. The routine commercial analyses fell off in 1957 and especially in 1958. However the trouble problems and design problems, which both require considerable research, continued to increase, and although the total number is not too large they require a greater amount of time

than the routine commercial analysis. The amount of mineral samples decreased over the last year due to price drops in metals and restrictive mining regulations in B.C.

As in the past advice and help was given to Alberta prospectors when such help was requested.

The routine tests on engineering material lessened as more of this type of work was taken over by local testing firms. Some testing work was done for other laboratories and assistance given to them where requested, also assistance was received from them in many instances.

Examinations and Analyses

Acid	2	Diaper	3
Aggregate	2	Disinfectant	1
Alcohol	1	Document	1
Anodes	2	Dolomite	6
Antifreeze	2	Drapes	1
Asbestos	3	Dresses	30
Ash	1	Dust	5
Asphalt	2	Drilling Mud	1
Babbit Metal	1	Eggs	4
Barytes	9	Fabric	9
Bentonite	1	Fat	4
Blood	597	Feed (animal)	43
Bones	1	(poultry)	32
Bottle	2	(concentrates)	7
Brain (for alcohol)	79	Fertilizer	1
Brass	2	Fire Exhibits	1
Bread	2	Fire Extinguishers	1
Breaker Points	10	Fish	1
Bricks	1	Flooring	1
Brushes	3	Food (human)	40
Bug	1	Fruit	1
Calculi	15	Fruit Juice	5
Candy	13	Fungi	1
Carbon	4	Furs	7
Carpet	1	Galena	2
Cement	5	Gasoline	28
Chemicals	14	Glauber Salts	3
Chlorine Compounds	5	Glass	2
Cigarettes	2	Glass Beads	4
Clay	98	Grain	7
Cleaner	2	Gravel	4
Cloth	14	Cypsum	8
Clothes	45	Hair	4
Coal	3	Hay	2
Coffee	3	Hide	1
Concrete	11	Honey	1
Cores	1	Hydraulic Fluid	1
Cream	2	Industrial Chemicals	3
D.D.T.	1	Insecticides	1
Deposits	48	Insects	4
Detergent	11	Iron	15
		Iron Ore	1

Lead	12	Sand	31
Leaves	5	Sandstone	1
Lime	1	Scale	4
Limestone	22	Schist	3
Liquid	13	Sediment	4
Liquor (Detailed for ALCB)	34	Seed	2
(Malt for ALCB)	1117	Shorts	3
(Police Samples)	142	Shale	4
(Miscellaneous)	8	Shell, bearing	6
Lithium	50	Shoes	3
Lung	2	Silage	3
Manure	2	Silica	2
Marl	33	Sludge	9
Matches	2	Soap	8
Meat	11	Sodium Sulphate	7
Medical compounds	2	Soft Drinks	1
Medicine	2	Soils	63
Metal	7	Solutions	5
Mica	25	Spices	2
Milk	9	Steel	54
Minerals	3	Stucco	3
Miscellaneous	18	Sterilizer	1
Mud	5	Sugar	3
Mushrooms	1	Tankage	6
Nails	3	Tar	1
Oil (Crude)	3	Tile	10
(Lubricating)	7	Typewriter Ribbons	2
(Protective)	2	Urine	175
(Fuel)	2	Veterinary Specimens	1038
(Edible)	2	Vitamins	2
Ore	357	Vita-Thin	12
Paint	31	Volcanic Ash	1
Paper	10	Water (Sanitary)	2698
Penetrant	2	(Poison)	4
Pills	22	(Industrial)	285
Pipe	7	Wax	16
Plants	5	Wheat	21
Plastic	1	Wire	3
Plaster	4	Wood	16
Poison Exhibits (misc.)	8	Wool	1
(human)	457	Engineering Materials:	
Police Exhibits (Misc.)	77	Concrete Cylinders	1323
Powder	2	Condensers	2
Preservative	1	Conductor Cable	6
Quartz	3	Electrician's Gloves	359
Resin	2	Lightning Arresters	71
Rock	203	Lightning Rods	1
Rubber	1	Meters	16
Rubbing Alcohol	1	Rubber Blankets	1
Rugs	1	Safety Cap	1
Salt	11	Transformer Oil	3



REPORT
OF
THE GOVERNORS
OF THE
UNIVERSITY OF ALBERTA
1958-59

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To the Lieutenant-Governor in Council

Sir:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1959, and investments as they stood at the end of the fiscal year. Appended to this report is the report of the President of the University, in which the academic work of the University for the Year July 1, 1958 to June 30, 1959, is dealt with in detail.

C. M. MACLEOD, Chairman

W. H. JOHNS, President

November 30, 1959

Financial Statements

Edmonton, July 17, 1959

I have audited the books and records of the University of Alberta for the year ended March 31, 1959. The undernoted statements are submitted herewith:

Statement	Particulars
A	Balance Sheet
B	Statement of Operating Reserve
C	Statements of Revenue and Expenditure

Operating Results

Operations for the year ended March 31, 1959 resulted in a surplus of \$368,968.06 as compared with a deficit of \$427,197.67 for the previous fiscal period. Details of operations are shown in Statement C and accompanying schedules.

The surplus for the year has been carried to operating reserve. Transactions within the reserve are set forth in Statement B.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:

Balance as at April 1, 1958	\$16,979,595.76	
Add:		
Advances during the year:		
Physical education building	919,420.76	
Physical science building	895,279.03	
Medical science building	324,581.01	
Agriculture and biological science bldg.	312,593.41	
Banff school administration bldg.	200,000.00	
Prov. lab. of public health	145,445.75	
Arts building conversion	87,187.16	
Paving and landscaping	61,778.92	
Machine shop	55,315.69	
North laboratory conversion	24,269.46	
Electric light and telephone	21,288.00	
Improvements, building and grounds	34,693.46	
Equipment	512,558.19	
		<u>\$20,574,006.60</u>

Capital surplus:

Balance as at April 1, 1958 \$ 2,740,809.69 | |

Add:

Acquired from trusts and donated funds:		
Buildings	282,575.82	
Equipment	170,762.82	
Provided from reserve funds:		
Buildings	50,000.00	
Income contributions:		
Buildings	13,088.84	
Equipment	8,503.24	
Library	64,004.73	

\$ 3,329,745.14

Deduct:

Demolition and disposals 180,803.29 | |

3,148,941.85

\$23,722,948.45

Subject to the foregoing remarks, I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1959, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the result of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.

Provincial Auditor.

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UNIVERSITY OF ALBERTA
BALANCE SHEET AS AT MARCH 31, 1959

ASSETS

Buildings and equipment in service:			
Land, buildings and plant		\$19,560,177.80	
Furnishings and equipment		4,077,410.09	
			\$23,637,587.89
Loan receivable:			
Students' Union re Students' Union building, see contra			199,306.81
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$186,000.00)			198,480.00
Current:			
Cash on hand and in bank	\$	86,901.61	
Accounts receivable:			
Sundry debtors	\$	143,283.12	
Less: Allowance for doubtful accounts		2,500.00	
	\$	140,783.12	
Government of the Prov. of Alta.		735,131.15	
Accrued interest		875,914.27	
Merchandise held for resale		4,604.16	
		140,297.95	
			1,107,717.99
Prepaid expenses:			
Supplies on hand	\$	99,748.92	
Unexpired insurance		34,426.54	
Legal retainer fee		375.00	
Unemployment insurance stamps		635.58	
			135,186.04
Other assets:			
Livestock	\$	30,164.00	
Deposit, Workmen's Compensation Board		8,564.00	
			38,728.00
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,345,500.00	
Provincial debentures, direct and guaranteed		1,239,340.00	
Municipal debentures		6,000.00	
Corporation debentures		31,270.00	
Corporation shares		40,987.36	
	\$	2,663,097.36	
Cash on hand and in bank		212,086.09	
Loans receivable		46,122.84	
Real estate, shares and sundry, nominal value		8.00	
Due from general account		292,945.02	
			\$ 3,214,259.31
			<u>\$28,531,266.04</u>

LIABILITIES

Capital and surplus:			
Capital provided by the Government			
of the Province of Alberta	\$20,574,006.60		
Capital surplus	3,148,941.85		
			\$23,722,948.45
Loan payable:			
Government of the Province of Alberta			
re Students' Union building, see contra			199,306.81
Agreement for purchase of leasehold			990.99
Current:			
Treasury branch overdraft	\$ 15,640.09		
Accounts payable	370,847.95		
Due to trust account	292,945.02		
			679,433.06
Deferred income:			
Fees	\$ 14,867.09		
Other	296.45		
			15,163.54
Reserves:			
Federal aid funds unexpended	\$ 193,565.37		
University Athletic Board fees unexpended	29,615.86		
Land exchange	22,726.42		
Workmen's Compensation Board	8,564.00		
Library fees unexpended	7,952.31		
Rink repairs	1,148.16		
Provincial Laboratory of Public Health, operating	59,342.86		
Operating, general, Statement B	376,248.90		
			699,163.88
Trust:			
General endowment:			
Rockefeller Foundation	\$ 500,000.00		
Scholarships:			
Escheated estates	\$ 737,887.97		
General	467,021.99		
		1,204,909.86	
Research		460,057.64	
Students' grants and loans		95,974.02	
General educational purposes		296,609.05	
Pensions		56,567.63	
Sundry:			
Administered by the University	\$ 220,876.81		
Held on behalf of others	379,264.30		
		600,141.11	
			\$ 3,214,259.31
			\$28,531,266.04

STATEMENT B

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
 FOR THE YEAR ENDED MARCH 31, 1959

Surplus for the year ended March 31, 1959, Statement C			\$ 368,968.06
Add:			
Transfer from the Provincial Laboratory of			
Public Health operating reserve:			
Excess of expenditure over revenue	\$	8,541.77	
Sale of miscellaneous surplus equipment		2,635.41	
Sale of temporary huts		1,000.00	
			<u>12,177.18</u>
			\$ 381,145.24
Deduct:			
Transfer to Conference of Learned Societies			
trust account			4,896.34
Balance as at March 31, 1959			<u>\$ 376,248.90</u>

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1959

REVENUE

Grants:		
Province of Alberta:		
General	\$ 3,100,000.00	
Clinical research, University of Alberta		
Alberta Hospital, see contra	50,000.00	
Debt charges, see contra	553,852.26	
Government of Canada:		
Federal aid	1,744,573.31	
		\$ 5,448,425.57
Fees:		
Tuition	\$ 1,452,648.81	
Examination and special, net	35,206.73	
		1,487,855.54
Interest on Rockefeller foundation endowment	\$ 16,875.00	
Deduct: Transferred to medical research trust	6,875.00	
		10,000.00
Grants in aid		5,000.00
Library fees, see contra		52,661.13
University Athletic Board fees, see contra		25,015.54
Operating departments net revenue as per Schedule No. 2		21,606.63
		<u>\$ 7,050,564.41</u>

EXPENDITURE

Instructional salaries and direct expenses,		
net, as per Schedule No. 1		\$ 4,446,938.35
Maintenance of buildings		669,542.71
Debt charges, see contra		553,852.26
Library:		
Salaries and expenses, Edmonton	\$ 177,774.68	
Salaries and expenses, Calgary	13,780.37	
Provision for library accessions, see contra	52,661.13	
		244,216.18
Administrative salaries and expenses, general		278,529.50
Maintenance of grounds		66,033.61
Grant to University of Alberta Hospital		
re clinical research, see contra		50,000.00
Other expenses:		
Student advisory services	\$ 39,831.76	
Provision for University Athletic Board expenses,		
see contra	25,015.54	
Calendars, scientific and other publications	22,481.00	
Travelling expenses, instructional staff	18,000.00	
Provost's office	14,125.58	
Alumni office	11,641.45	
Pension arrears	10,460.55	
Greenhouse salaries and expenses, general	10,365.27	
Electronics maintenance	10,363.84	
First year committee	249.96	
		162,534.95
Public service departments not expenditure,		
as per Schedule No. 3		209,534.49
Equipment purchased from income		414.30
		<u>\$ 6,681,596.35</u>
 Surplus for the year ended March 31, 1959,		
carried to operating reserve, Statement B		\$ 368,968.06

*To the Governors of the
University of Alberta*

Gentlemen:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1959.

W. H. JOHNS,
President.

President's Report to Convocation

November 1, 1958

Eminent Chancellor, we are all impressed with the historic significance of this occasion. This is the first time a Convocation of the University of Alberta has been held in the City of Calgary. It may, in the view of some, be fifty years too late. However, within the historical framework, there are good reasons why the event should occur in the year 1958. In the first place, the University of Alberta, which was established by Provincial Statute to serve the needs of the Province, this year celebrates its 50th Anniversary. The decision to hold the regular Fall Convocation in Calgary is part of the general design of the Jubilee celebrations. In the second place we will, following this Convocation, take part in the ceremony of turning a sod on the new Campus of the University of Alberta in Calgary. Consequently, the occasion marks both the end of an era and the beginning of a new one. It is an exciting day. Albertans do not live in the past; their eyes are constantly on the future; and today we see the future taking shape.

The Calgary Branch of the University of Alberta was established in 1945, when the University assumed the responsibility for teacher training and a part of the facilities of the Calgary Normal School became available for University instruction. Modest growth in the courses offered and in the number of students has occurred within the limited facilities, and it can be said that the students who have attended the Calgary Branch have not in any way suffered in their educational progress in comparison with the students attending at the larger part of the University in Edmonton. For this they, and the University, owe a debt of gratitude to the staff of the Calgary Branch who have so faithfully carried out their duties in the absence of some of the amenities and aids available to their colleagues.

The University, and particularly those who have laboured here, are grateful to the City and citizens of Calgary for making available the spacious and attractive site on which the University in Calgary can begin the new stage of its growth to full maturity. The plans for the development have been exhibited in Calgary and the first buildings will be occupied in the fall of 1960. The new facilities will be required to meet the rapidly increasing number of students and will provide conditions for students and staff comparable to the best available in other Canadian Universities. Such facilities are not obtained except at considerable cost, and we are grateful to the Government and people of the Province for the substantial commitment they have made to meet the growing needs for the tools to carry out the expanding program of University education in Alberta.

In my brief report to Convocation, I shall confine myself to an analysis of student registrations. My first figures have reference to *under-graduate* students who are in full-time attendance at the winter session. The number of such students in Edmonton and Calgary is now 5,141; 4,600 in Edmonton, and 541 in Calgary. To this number we may add 195 full-time graduate students in attendance in Edmonton. The total of 5,336 full-time students, under-graduate and graduate, in 1958-59, represents an increase of 542, or 11% over 1957-58. The increase in Edmonton is 443 and in Calgary 99.

The total increase is slightly greater than had been expected on the basis of recent trends. Two features of the changes this year call for special comment. The increase in the Faculty of Engineering, although considerable, is not as great as might have been expected. The registration in the first year is no greater than last year. This may be due, in part, to the rather less favourable employment opportunities for engineers in 1958. On the other hand, there is a substantial increase in the registrations in the B.Sc. Programs in the Faculty of Arts and Science. Perhaps this is a consequence of the emphasis which has been given to science in public discussion of Education recently.

The second noteworthy feature of the current growth is changes in enrolments in the Faculty of Education. The increase (160) in numbers of teachers in training is of the order expected. There is a decrease in the number of students registered in the junior elementary program, but this is more than compensated by increases in the first year of the B.Ed. program, and in the number of graduates from the Faculty of Arts and Science, who are proceeding to the B.Ed. degree. There is, therefore, a healthy trend toward participation in those programs of studies which will assist in raising the qualifications of teachers.

To the full-time students we may add those special and partial students who are taking something less than a full intra-mural program of studies. This number, in 1958-59, is 600; 449 in Edmonton, and 151 in Calgary. This brings the aggregate number of students attending the winter session in Edmonton and Calgary to 5,936 of which 692 are in Calgary.

These are not the only students in the Province who are proceeding towards degrees from the University of Alberta. A number of students are registered in credit courses offered in the Evening Division. Total registration in these courses is 881, an increase of 204 over 1957-58. The courses are being offered in eight centres in the Province. Evening program students number 582 in Edmonton (an increase of 20%); 102 in Calgary (an increase of 25%); and 197 in other centres in the Province (an increase of 60%).

The Lethbridge Junior College, which admitted students for the first time in 1957, has this year an enrolment of 54 full-time students studying for examinations at the University of Alberta. This compares with 26 students last year. Approximately 50 teachers are also taking early afternoon classes in the Lethbridge College.

Registration in the 1958 Summer Session in Edmonton reached a new high of 2,409 students.

If we add together the registrations of full-time and partial winter session students, evening credit, Lethbridge College, and Summer Session, we reach a total of 9,330 registrations in courses leading to a degree.

The number I have just given does not include students attending short courses offered by the Department of Extension. There are, at the present time, 2,184 persons registered in extra-mural courses offered by the Extension Department. The courses include evening courses in a variety of subjects in Edmonton, Calgary, Medicine Hat, and Lethbridge; Fine Arts programs outside of Edmonton; courses for special groups (for example, the Engineering Institute of Canada); and two new certificate courses in Social Welfare and Public Administration.

Increasing numbers present problems, but it is without regret or apology that I report that the work of the University is expanding on all fronts to meet the growing demands for educational services.

President's Report to Convocation

May 20, 1959

In this, my first report to Convocation, I must begin by expressing the universal feeling of regret that was felt by the University community when we learned of the decision of Dr. Andrew Stewart to resign as President of the University on January 31 in order to accept the post of chairman of the newly created Board of Broadcast Governors in Ottawa. We are pleased to have him with us today as a candidate for the degree of Doctor of Laws, *honoris causa*, along with three other distinguished citizens of Alberta who have served the University faithfully and well during Dr. Stewart's own period of service here.

Last year we marked our Jubilee in celebrating fifty years of service to our constituency, the Province of Alberta. The growth of the University in this half century may be indicated in part by the fact that we begin our present fiscal year on April 1 with two budgets, one for current operations and the other for our capital building program, each in excess of ten million dollars. Comparisons are, of course, never entirely valid, particularly when they involve sums of money in a period of monetary inflation. It may, however, be of interest to note that our current budget last year was just over eight million dollars with the capital building figure just over four million and in 1956-57 the current was just over five million and the capital under one million. In other words, the current budget has nearly doubled and our capital building budget has increased tenfold in a period of only three years. We are deeply conscious of the generous support this implies on the part of the Government and people of this Province and of Canada as a whole.

Time does not permit a detailed account of the use to which these very large sums of money are put, but I should like to refer especially today to the building program and to graduate teaching and research, touching briefly on other aspects of the corporate life of the University in passing.

Capital construction at the University of Alberta lagged behind need for two decades during the long years of depression and war from the mid 1920's to the mid 1940's. Following World War II a beginning was made in repairing these deficiencies and this part of the program has provided a number of very fine buildings. The present program is designed to meet the great and growing needs of the present and of the future.

Four major projects are now under way on the Edmonton Campus:

- (1) the Physics-Chemistry-Mathematics Building, of which the steel framework is now visible on the north end of the back campus; 60% of this building is scheduled for completion by September, 1960 including the large lecture theatre in front of the Physics Building and the lecture room pavilions at the rear;
- (2) the Physical Education and Recreation Building is taking shape rapidly between 87th and 89th Avenues to provide men's and women's gymnasias, a rink, a swimming pool, and auxiliary practice and lecture rooms and offices;

- (3) the addition to the Medical Building where the steel core is now being erected and work on the general and other contracts is expected to follow shortly to provide additional space for the pre-clinical Departments in Medicine and new facilities for a number of other health sciences;
- (4) steel has been purchased for the addition to the Engineering Building which we hope may be completed by the beginning of the 1960-61 session.

The Calgary campus also claims high priority for two large teaching buildings which we hope will be ready for occupancy by September, 1960. The first of these will accommodate administrative offices, the Faculty of Education, Departments of the Liberal Arts, and the Library. The second will provide for Science, Engineering, and food services. A third building is urgently needed to provide facilities for Physical Education and Recreation and an assembly hall for meetings, examinations, and social functions. This building is now in the preliminary, planning stage. Later, the University of Alberta in Calgary will require a separate Library building, a separate Education building with a demonstration school and student residences.

The Edmonton program also calls for further buildings in the near future—an additional Education Building, a Fine Arts Building, an addition to the Rutherford Library, a Social Sciences Building, a Home Economics Building, a Medical teaching building adjacent to the University Hospital, and a number of smaller service buildings. As in Calgary there is an ever present and always urgent need for residences and food services.

The support for this program provided by the Government of Alberta through the Department of Public Works is a constant source of satisfaction to the Board of Governors and a challenge to the administrative and teaching staff to provide the best facilities for higher education in Canada. When the current program is complete, the University of Alberta will be second to none in this country in the quality of its physical equipment.

No university is built of bricks and mortar. It stands on the quality of its teaching and research; and the alert, enquiring mind that produces the most effective teaching and the most effective research reaches its full flowering only where conditions are favourable. Behind the facades of these buildings are the laboratories, the bewildering variety of electronic and other equipment which serve the scientific observer, the overflowing shelves of the library's book storage, and the offices which provide space for the staff member's personal equipment and the privacy and quiet he needs for his work. All this is enabling us more and more to attract, and, by affording satisfaction, to retain, those persons of whom a university must consist if it is to make its due contribution to the national life.

The vitality, and the growth, of this institution can be shown by such examples as a new degree program in Mechanical Engineering, plans for expansion of the Physiotherapy curriculum to three years with provision for Occupational Therapy, a revision of the programs in the School of Commerce and the Faculty of Law, a new program leading to the degree of Bachelor of Music, new honours courses in Geography, Sociology, and Slavonic and Soviet studies, and a general increase in activity in a score of Departments and Divisions throughout the University.

As a further signal example of this vitality and growth I choose the Faculty of Graduate Studies. On April 1 of this year Dr. A. G. McCalla

relinquished his post as Dean of the Faculty of Agriculture to devote his efforts fully to his work as Dean of the Faculty of Graduate Studies. Dr. C. F. Bentley, who had served for a year and a half as Associate Dean was named Dean of the Faculty of Agriculture as of the same date.

Canadian universities have for many years had an excellent reputation for their undergraduate programs; but for graduate study, especially for work leading to the doctoral degree, it was necessary for our best students to go to the United States, with the consequent loss of many of them to the academic and scientific life of Canada. This situation is now rapidly becoming redressed and the University of Alberta is taking a leading role in this development. Two years ago a total of 18 students were registered for the degree of Doctor of Philosophy. Last year, the number, including provisional candidates, rose to 36. This year it had grown to 69 with an additional 6 students registered for the newly established degree of Doctor of Education. This year, three Departments—Chemistry, Dairy Science, and Educational Psychology—are presenting candidates for the Ph.D. for the first time.

Of special interest in this rapidly developing program is the work in the various aspects of professional Education. Some idea of the graduate work in this field may be gained from the following figures:

The Division of Educational Administration last year had 75 Summer Session candidates for the degree of Master of Education while in the intramural program there were 10 candidates for the Master's degree and 8 for the Doctorate. The intramural program, particularly, is national in scope and attracts candidates from several provinces.

The Division of Secondary Education serves 115 M.Ed. candidates, mostly in the Summer Session, and has two Doctoral candidates currently registered.

The Division of Educational Psychology also has a large number of Master's candidates and during the past year has had 5 candidates proceeding to the Ph.D.

Not only do these programs improve the qualifications of a large number of school teachers, principals, and superintendents; they also, through the fruits of the research carried on, add to our understanding of a great many problems in Canadian education. Co-ordination of these projects is assisted by Provincial and Faculty Committees on Educational Research and many of the results are published in the *Alberta Journal of Educational Research* and in special monographs.

It is not possible here to give complete statistics for other Departments, but a few may be given special mention. The Department of Chemistry had 40 graduate students last year of whom 27 were proceeding on doctoral programs, the Department of Geology had 18 candidates for the Master's degree in Science and 2 for the Ph.D., the Department of Physics had 8 candidates for the M.Sc. and 7 for the Ph.D., and the Department of Civil Engineering had a total of 30 graduate students. Research is also being prosecuted with vigour in a number of other Departments in the Faculties of Agriculture, Arts and Science, Engineering, Medicine, and Pharmacy, and others.

Graduate training in the Faculty of Medicine calls for special mention. Students in this Faculty normally prepare themselves to sit the examinations for certification or fellowship in the Royal College of Physicians and Surgeons of Canada rather than for graduate degrees. This year, however, the 32 young men and women in this group were registered as Special Students in the

Faculty of Graduate Studies in recognition of their status in the University. Support for research in Medicine comes from many sources, notably from the University's own Medical Research Fund, the Defence Research Board, the National Research Council, the National Cancer Institute, the Alberta Heart Foundation, the Department of Health and Welfare, and the Muscular Dystrophy Association. Last year the Faculty received from all sources a total of \$239,820 and members of the Medical staff were able to present 92 scientific papers on original research to various learned societies as well as 180 lectures to medical and nursing groups and lay societies in Western Canada.

With a record such as this in graduate study and research, the University of Alberta can lay claim to have come of age.

In conclusion I must note with deep regret the tragic and untimely death since last May of five of our active colleagues—Dr. Erich Mueller, Professor of German; Dr. E. H. Gowan, Professor of Physics; Dr. Samuel Strong, Assistant Professor of Sociology; Dr. R. B. Miller, Professor of Zoology; and Dr. O. J. Walker, who served the University for many years as Professor of Chemistry and more recently as Director of the School of Graduate Studies. At the time of his death Dr. Walker had completed the first year of his retirement and had been lecturing in Chemical Engineering.

I should like publicly to express the University's gratitude to several other staff members who have served the University well for many years and are now leaving for retirement or other activity: Dr. John W. Scott retires as Dean of the Faculty of Medicine after many years of distinguished service as Professor of Medicine and Dean. He will continue his private practice in Edmonton. We are happy to welcome Dr. Walter C. MacKenzie to the office of Dean of the Faculty on Dr. Scott's retirement in August.

Dr. R. F. Shaner retires as Professor of Anatomy, but will continue to carry on with his research for at least another year with the rank of Professor.

Dr. J. E. Bowstead retires as Professor of Animal Science after many years of service.

Dr. J. D. Newton has anticipated his retirement by one year to return to Indonesia with the Food and Agriculture Organization in his special field of Soil Science.

Dr. H. A. MacGregor completes his term of service as Professor of Elementary Education this year.

Mr. Geoffrey Bradford Taylor, former Registrar, who will be honoured later in this program in a special way, officially retires this summer.

One final loss to the University remains to be announced—the resignation of Dr. R. M. Hardy as Dean of the Faculty of Engineering to devote himself to his private practice. I am happy to say that the blow has been slightly mitigated in this case, since Dr. Hardy has consented to carry on some teaching in Civil Engineering on a part time basis. These men have our deep and sincere gratitude.

Table I—Academic Staff Numbers (September 1st, 1958)

Administrative Officers

President	1
Vice-President	1
Assistant to the President	1
Deans of Faculties	9
Directors of Schools	5
Director of the Calgary Branch	1
Assistant Director of the Calgary Branch	1
Director of the Summer Session	1
Provost	1
Assistant Provost, Calgary Branch	1
Director of Student Advisory Services	1
Assistants to the Director of Student Advisory Services	2
Dean of Women	1
Librarian	1
Superintendent of the University Hospital	1
Registrar	1
Associate Registrar	1
Assistant to the Registrar	1
Alumni Secretary	1
Bursar	1
Accountant	1
Assistant Accountant	1
Purchasing Agent	1
Personnel Officer	1
Wardens of Residence Halls	3

40

Full-time Teaching Staff

Professors	76
Associate Professors	107
Assistant Professors	128
Lecturers	24
Instructors	5

340

On Leave of Absence

Professors	3
Associate Professors	4
Assistant Professors	3
Lecturers	nil

10

Part-time Teaching Staff

Professors	7
Associate Professors	7
Clinical Professors	20
Assistant Professors	13
Associate Clinical Professors	1
Assistant Clinical Professors	14
Lecturers	72
Instructors	86
Demonstrators in the Faculty of Education	195
Demonstrators and student assistants	200

615

Department of Extension

Director	1
Assistants	3
Agriculture Secretary	1
Librarian	2

7

Library

Librarian	1
Assistant Librarian	—
Assistants	15

16

Industrial Laboratories

Director and Provincial Analyst	1
Assistants	2

3

Provincial Laboratory of Public Health

Provincial Bacteriologist and Director, Edmonton	1
Director, Calgary	1
Provincial Pathologist	1
Assistants	4

7

Other Staff

Dietitians	3
Radio Secretary	1

4

Total

1042

Less Duplicates

31

Total Academic Staff

1011

Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

Lawrence F. L. Clegg, B.S.A., Ph.D., D.Sc., D.I.C., M.I.Biol., Professor of Dairy Science.

William G. Evans, M.S., Ph.D., Assistant Professor of Entomology.

John M. de Man, Chem. Eng., Ph.D., Assistant Professor of Dairy Science.

George Eugene Ball, A.B., Ph.D., M.Sc., from Assistant to Associate Professor of Entomology.

Charles Fred Bentley, M.Sc., Ph.D., Dean of the Faculty of Agriculture.

Faculty of Arts and Science

Samuel M. Strong, B.A., Ph.D., Assistant Professor of Sociology.

John P. Cutts, M.A., B.A., Ph.D., from Lecturer to Assistant Professor of English.

Rowland Douglas McMaster, M.A., from Lecturer to Assistant Professor of English.

Roger Georges Motut, B.A., B.Ed., M.A., Assistant Professor of French.

Cleveland Pendleton Hickman, A.B., M.Sc., Assistant Professor of Zoology.

Gordon Kenneth Goundrey, B.A., M.A., Assistant Professor of Economics.

Frederick Terentiuk, B.Sc., M.A., Ph.D., Assistant Professor of Physics, Calgary.

Robert H. McNeal, A.B., M.A., Certificate of the Russian Institute, Ph.D., Assistant Professor of History.

Edward J. Rose, A.M., from Lecturer to Assistant Professor of English.

Hubert Chanal, L-es-L., Lecturer in Russian.

Werner Israel, M.Sc., Assistant Professor of Mathematics.

John McNamee, B.E., B.Sc., Ph.D., Associate Professor of Mathematics.

Peter de Beauvoir Brock, B.A., M.A., D.Phil., Ph.D., Assistant Professor of History.

Keena Vozoff, B.S., M.S., Ph.D., Assistant Professor of Physics.

Charles Nelson Uhl, B.A., M.S., Ph.D., Assistant Professor of Psychology.

Frank D. Manchester, M.Sc., Ph.D., Assistant Professor of Physics.

John Thomas Sample, B.S., M.A., Ph.D., Assistant Professor of Physics.

Frank Ludwig Weichman, B.S., Ph.D., Assistant Professor of Physics.

David A. Boag, M.Sc., Lecturer in Zoology.

Victor Lewin, B.A., Ph.D., Assistant Professor of Zoology.

Genevieve Colleville, Lecturer in French, Calgary.

Bohdan Plaskacz, Lic. Phil. Litt., Ph.D., Assistant Professor of German.

John George Packer, B.Sc., from Lecturer to Assistant Professor of Botany.

William Alfred Ayer, B.Sc., Ph.D., Assistant Professor of Chemistry.

David Anthony Armstrong, B.Sc., Ph.D., Assistant Professor of Chemistry.

Frank Cuthbert Adam, M.Sc., Ph.D., Assistant Professor of Chemistry, Calgary.

David Darwish, B.Sc., Ph.D., Assistant Professor of Chemistry.

Gordon R. Freeman, M.A., Ph.D., D.Phil., Assistant Professor of Chemistry.

Paul Kekarle, Dip. Ing. Chem., Ph.D., Assistant Professor of Chemistry.

Rudolph O. A. Robinson, B.A., Ph.D., Associate Professor of Mathematics.

William J. Bruce, M.Ed., Ph.D., from Assistant to Associate Professor of Mathematics.

Anthony S. B. Holland, B.Sc., Lecturer in Mathematics, Calgary.

Tadepalli V. Narayana, M.A., Ph.D., Associate Professor of Mathematics.

William F. Dawson, B.A., M.A., D.Phil., from Lecturer to Assistant Professor of Political Economy.

Halfdan Baadsgaard, B.S., Ph.D., Assistant Professor of Geology.

Elias Wolf Mandel, M.A., Ph.D., from Assistant to Associate Professor of English.

Frank Donald Blackley, M.A., Ph.D., from Associate Professor to Professor of History.

Henry Kreisel, M.A., Ph.D., from Associate Professor to Professor of English.

Ronald Allan Burwash, B.Ed., M.Sc., Ph.D., from Assistant to Associate Professor of Geology.

Ernest Reinhold, B.Sc., M.A., Ph.D., from Assistant to Associate Professor of German.

Robert Common, B.A., Ph.D., from Assistant to Associate Professor of Geography.

Cyril Eugene Challice, B.Sc., Ph.D., A.R.C.S., D.I.C., F.inst.P., from Assistant to Associate Professor of Physics, Calgary.

George Charles Cree, M.A., Ph.D., from Assistant to Associate Professor of Mathematics.

John Ralph Nursall, M.A., Ph.D., from Assistant to Associate Professor of Zoology.

Eoin Laird Whitney, B.Sc., A.M., Ph.D., from Assistant to Associate Professor of Mathematics.

Charles Herald Moore, B.A., Docteur de l'Universite de Paris, from Assistant to Associate Professor of French.

Terence Michael Penelhum, M.A., B.Phil., from Assistant to Associate Professor of Philosophy.

Earl Frederick Guy, M.A., Ph.D., from Assistant to Associate Professor of English, Calgary.

Wallace Dean Farnham, B.A., M.A., Ph.D., from Assistant to Associate Professor of History.

William John Eccles, M.A., Ph.D., from Assistant to Associate Professor of History.

Frank F. Bueckert, B.Ed., A.M., from Lecturer to Assistant Professor of Drama.

Alban Dewes Winspear, B.A., M.A., Associate Professor of Classics, Calgary.

School of Commerce

Herbert M. Axford, B.Com., M.Com., Ph.D., Associate Professor of Business Administration.

William A. Preshing, B.Ed., B.A., M.B.A., from Lecturer to Assistant Professor of Business Administration.

Faculty of Dentistry

Rowland Dalton Haryett, D.D.S., M.Sc., from Assistant to Associate Professor of Orthodontics.

Stanley Gordon Geldart, D.D.S., from Sessional Lecturer to Assistant Professor of Operative Dentistry.

Neil Basaraba, D.D.S., Lecturer in Pedodontics.

Jan Diepenheim, Diploma, D.D.S., Lecturer in Operative Dentistry.

Douglas Harvey MacDougall, D.D.S., Lecturer in Operative Dentistry.

Ronald Perry Mullen, B.A., D.D.S., M.S.D., Lecturer in Orthodontics.

William Irwin Maurice Steen, D.D.S., Lecturer in Operative Dentistry.

Robert Lewis Tegart, D.D.S., Lecturer in Operative Dentistry.

Albert Rudolph Urschel, D.D.S., Lecturer in Prosthetic Dentistry.

Kenneth Alan McMurphy, B.A., D.D.S., from Associate Professor to Professor of Oral Pathology.

Faculty of Education

Marion Dixon Jenkinson, B.A., Ph.D., Assistant Professor of Education.

Elizabeth Filipkowski, B.Ed., Lecturer in Music and English.

John Ernest Cheal, B.Ed., Assistant Professor of Educational Administration.

John M. Macdonald, M.A., Ed.B., Ph.D., Assistant Professor of Educational Psychology.

Evelyn Ruth Moore, M.A., Assistant Professor of Education.

Manoly R. Lupul, B.A., B.Ed., M.Ed., Assistant Professor of Education.

William B. Dockrell, B.A., B.Ed., Assistant Professor of Educational Psychology.

Douglas H. Crawford, B.Sc., M.A., Ed.B., Assistant Professor of Education.

Gordon Leslie Mowat, B.Sc., M.A., Ed.D., from Associate Professor to Professor of Educational Administration.

Russell Stuart MacArthur, B.Ed., Ph.D., from Associate Professor to Professor of Educational Psychology.

Earl William Buxton, B.A., B.Ed., M.A., Ph.D., from Associate Professor to Professor of Secondary Education.

Jean Downie Dey, B.Ed., from Assistant to Associate Professor of Elementary Education.

Arthur George Storey, B.A., B.Ed., M.Ed., from Assistant to Associate Professor of Education, Calgary.

Ahron Eliezer David Schonfield, M.A., from Assistant to Associate Professor of Educational Psychology, Calgary.

Faculty of Engineering

Elmer W. Brooker, M.Sc., Assistant Professor of Civil Engineering.

Ynte Jacob Fokkinga, Ir., Assistant Professor of Electrical Engineering.

Czeslae Mateusz Rodkiewicz, Dipl. Eng., Assistant Professor of Mechanical Engineering.

Peter Glockner, B.Sc., M.Sc., Assistant Professor of Civil Engineering.

Antonio J. Celis, B.S., M.S., Assistant Professor of Civil Engineering.

William V. Youdelis, B.Sc., M.Sc., Ph.D., Assistant Professor of Metallurgy.

Donald Quon, M.Sc., Sc.D., Associate Professor of Chemical Engineering.

Richard T. Hart, M.S., Assistant Professor of Petroleum Engineering.

James Stewart Kennedy, M.Sc., from Assistant to Associate Professor of Applied Mechanics.

Jan Leja, A.R.S.M., B.Sc., Dip. Ing., Ph.D., from Assistant to Associate Professor of Metallurgy.

School of Household Economics

Margaret Champion, B.Sc., H.Ec., M.Ed., from Lecturer to Assistant Professor of Household Economics.

Melvina Victoria Gowda, B.Sc., Instructor in Household Economics.

Kathleen Shirley Manser, B.A., Assistant Dietitian, University Residences.

Lila G. Mann, B.Sc., H.Ec., Dietitian, University Residences.

Faculty of Law

The Honourable Mr. Justice Ronald Martland, B.A., LL.B., B.C.L., Honorary Professor of Law.

Faculty of Medicine

Olav Rostrup, M.D., F.A.C.S., F.R.C.S.(C), F.A.A.O.S., Clinical Professor of Orthopaedic Surgery.

Isabelle Elizabeth Pearce, B.A., M.Sc., Ph.D., from Lecturer to Assistant Professor of Bacteriology.

Thomas A. S. Boyd, M.B., Ch.B., Associate Professor of Ophthalmology.

Kent M. Chapman, B.A., M.S., Assistant Professor of Physiology.

George Monckton, M.D., M.R.C.P., Associate Professor of Neurology.

Eric John K. Penikett, L.R.C.P., M.R.C.S., M.B., Associate Professor of Bacteriology.

Cyril Max Kay, B.Sc., Ph.D., Assistant Professor of Biochemistry.

Imelda Chenard, R.N., M.S.W., Lecturer in Psychiatry.

William Forster, M.B., B.S., D.P.M., Assistant Professor of Psychiatry.

Allan Greenwood Stewart, M.A., Ph.D., Associate Professor of Paediatrics.

Hector Ewart Duggan, M.D., F.A.C.R., from Clinical Professor to Professor of Radiology.

William C. Taylor, M.B., Ch.B., D.C.H., F.R.C.P.(C), from Assistant to Associate Professor of Paediatrics.

Edward Alexander Gain, B.A., M.D., from Clinical Professor to Professor of Anaesthesiology.

Konstanty Piotr Kowalewski, M.D., Ph.D., from Assistant to Associate Professor of Experimental Surgery.

Cecil Melville Couves, B.A., M.D., F.R.C.S.(C), Lecturer in Surgery.

School of Nursing

Shirley Marie Stinson, B.Sc., M.N.A., R.N., Lecturer in Nursing.

Margaret Murray Campbell, B.A.Sc., M.P.H., R.N., Assistant Professor of Nursing.

Margaret Melinda Madden, B.A., M.T.D., R.N., Lecturer in Obstetrical Nursing.

Faculty of Pharmacy

Keith Henry Palmer, M. Pharm., D. de l'U., Assistant Professor of Pharmacy.

John Randolph Murray, M.Sc., Ph.D., from Associate Professor to Professor of Pharmacy.

Bernard Edward Riedel, M.Sc., Ph.D., from Associate Professor to Professor of Pharmacy.

School of Physical Education

Murray Frank Robert Smith, B.Ed., from Lecturer to Assistant Professor of Physical Education.

Audrey Marie Carson, B.Ed., from Lecturer to Assistant Professor of Physical Education.

Clare James Drake, B.P.E., B.Ed., Lecturer in Physical Education.

Donald de Frayne Macintosh, B.Ed., in Physical Education, from Lecturer to Assistant Professor of Physical Education, Calgary.

Luther Goodwin, B.A., B.Ed., M.Ed., from Associate Professor to Professor of Physical Education.

School of Physiotherapy

Moyna Jeanette Gordon, M.C.S.P., from Lecturer to Assistant Professor of Physiotherapy.

Library

Wilfrid Clarence Rudy, B.A., B.L.S., Assistant Cataloguer.

Administration

Beverly Whitmore Brooker, B.Sc., Superintendent of Buildings.

Harold Richard Hawes, B.Sc., from Assistant Registrar to Associate Registrar.

Lynn Parkes Morgan, B.A., from Assistant to the Registrar to Assistant Registrar.

Robert Barry Wishart, B.Com., Administrator of Student Awards.

Department of Extension

Margaret Hume Galloway, B.A., Librarianship Diploma, Assistant Librarian.

Banff School of Fine Arts

John Christian Kenneth Madsen, B.Com., Assistant Director.

N. George Shaw, Secretary.

Table III—Leave of Absence

Walter Worth, M.Ed., Ph.D., Assistant Professor of Education.

Robert Valentine Blackmore, D.D.S., Assistant Professor of Operative Surgery.

Irwin Guttman, B.Sc., M.A., Ph.D., Assistant Professor of Mathematics.

Robert Johnston Craig Harper, M.A., Assistant Professor of Educational Psychology.

William Mackenzie, B.Sc., B.Litt., M.S., Associate Professor of Economics.

Robert Hugh Knowles, B.S.A., M.Sc., Associate Professor of Horticulture.

James Baird Haddow, B.Sc., Assistant Professor of Mechanical Engineering.

Blanche Giffen, M.A., B.Sc., in L.S., Medical Librarian.

Jules Tuba, M.Sc., Ph.D., Professor of Biochemistry.

George Klaus Horton, B.Sc., A.R.C.S., M.Sc., Ph.D., Associate Professor of Mathematics and Theoretical Physics.

Bernal Ernest Walker, M.A., Ph.D., Diplome de l'E.P.P.F.E., Professor of Education.

Walter Dunham Gainer, B.Sc., M.S., Associate Professor of Economics.

Willard Finlay Allen, B.Sc., M.A., Ph.D., Associate Professor of Chemistry.

Henry George Glyde, A.R.C.A., R.C.A., Professor of Fine Arts.

Avadh Behari Bhatia, M.Sc., D.Phil., Ph.D., Associate Professor of Physics.

Table IV—Retirements

William Scott Hamilton, D.D.S., F.A.C.D., F.D.S.R.C.S., Professor of Oral Surgery and Dean, Faculty of Dentistry.

Harold Ray Thornton, B.Sc., Ph.D., Professor of Dairying.

Evangeline Alberta Hastie, B.A., Associate Professor of Physical Education.

Table V—Resignations

Andrew Stewart, B.S.A., M.A., D.Econ., F.R.S.C., F.A.I.C., President.

John Mercel Robson, M.A., Ph.D., Assistant Professor of English.

John Lewis Morrison, M.Sc., Ph.D., F.C.I.C., Professor of Chemistry.

Winfield S. Carrick, B.A., Lecturer in Business Administration.

Emmett Wallace, B.M.E., M.B.A., Associate Professor of Business Administration.

George Archibald Brass, D.D.S., B.S.D., Professor of Operative Dentistry.

William Arthur Quigley, L.D.S., D.D.S., M.S., Professor of Orthodontics.

Joyce Gertrude Lister, B.Sc., Dietitian, University Residences.

Victor Ernest Graham, B.A., M.A., Ph.D., Associate Professor of French and Assistant Director, Calgary.

Cleeve Russell Amies, M.R.C.S., L.R.C.P., M.B., B.S., D.T.M., H.M.D., M.R.C.P., Professor of Preventive Medicine.

Loretta Millar, B.A., B.L.S., Library Assistant.

Shanti S. Gupta, M.A., Ph.D., Associate Professor of Mathematics.

Heinz Helfenstein, M.Sc., Ph.D., Assistant Professor of Mathematics.

Stanley Charles Tremayne Clarke, M.A., M.Ed., Ed.D., Professor of Educational Psychology.

Robert Macdonald Hardy, B.Sc., M.Sc., D.Sc., D.L.S., Professor and Dean of the Faculty of Engineering.

Harold Byron Barnett, A.R.C.T., B.A., Mus. Bac., M.A., Associate Professor of Education (Music).

Table VI—Gifts

From Calgary Power Limited, \$8,337.39 to Electrical Engineering re network analyser.

From the John and Mary R. Markle Foundation, \$12,000 for Markle Scholars in Medical Science, 1958 and 1959.

From the Alberta Heart Foundation, \$19,040.

From Harrisons & Crosfield (Canada) Limited and from Northwest Nitro-Chemicals Ltd., \$1,000 grant each for nitrogen fertilizer research in the Department of Soil Science.

From Pembina Pipe Line Limited, \$4,800 grant for Pipe Line Flow of Sulphur research.

From Merck & Co. Limited, \$200.

From Brewing & Malting Research Institute, \$4,000 to Department of Plant Science.

From the Cables Securities Limited, \$1,000 to the Colonel J. H. Woods Canada-U.S. Relations Trust Fund.

From the Department of Labour, \$1,500 for research under the direction of F. R. Anton.

From the Maple Leaf Milling Company, \$1,262.16 to the Department of Plant Science.

From the Land and Forest Conservation and Utilization Committee, Province of Alberta, \$35,000 for operating costs of the Soil and Feed Testing Laboratory.

From Builders' Supplies Limited, a specimen of a cross section of a large Douglas Fir to the Department of Botany.

From the Edmonton Civic Employees' Welfare Chest Fund, \$750 to assist in research on Multiple Sclerosis.

From the Calgary Citizenship Council, \$500 for continuing the plan for Bursaries for New Canadians.

From Mrs. R. L. Hoar, a presentation copy of the report of progress of the Geological Survey of Canada from its commencement until 1863 to the Department of Geology.

From the Canada Council, \$127,000 to the Banff School of Fine Arts.

From the CIBA Company Limited, \$2,000 for research under the direction of Dr. R. S. Fraser.

From M. Panchyshyn, the Independent Wholesale Ltd., \$50 towards a Ukrainian collection of books at the University.

From the 1957 Class of Life Insurance Marketing Institute, \$2,110 to the Banff Foundation.

To the Petroleum Production and Reservoir Research Fund under the direction of Dr. D. L. Flock: Calvin Consolidated Oil and Gas Co. Ltd., \$150; Western Leaseholds Ltd., \$150; D. S. Harvie, \$300; California Standard Company, one industrial minipump; Shell Oil Company of Canada Ltd., \$5,000; British American Oil Co. Ltd., \$2,000; Sun Oil Co., \$500.

From the Alberta Branch of the Canadian Society of Hospital Pharmacists, \$15 to the Faculty of Pharmacy.

From the Canadian Life Insurance Officers Association, \$4,500 for the Association's Fellowship, 1958-59.

From N. S. Trouth, Kelwood Corporation Limited, \$135 to the President's Trust Fund.

From California Standard Company, \$500 for photogeological work.

From Miss Agnes R. Girduckis, \$200 to aid a worthy education student.

From Charles Pfizer and Company Inc., \$50 for the purchase of new books on Pharmacology.

From the Consolidated Mining & Smelting Company of Canada Limited, \$4,000 for research on light weight zinc base alloys under the direction of Dr. J. G. Parr.

From the Canadian Foundation of Poliomyelitis, \$1,340 for research on the effect of ultra-violet light on the healing of wounds under the direction of Dr. M. Carpendale.

From Mrs. O. J. Walker, a painting "Fort Edmonton in the 70's."

From Parke, Davis & Company, one rotary tablet compressor to the Faculty of Pharmacy.

From the Canadian Foundation for the Advancement of Pharmacy, \$1,200 to provide half of two teaching fellowships in the Faculty of Pharmacy.

From Shell Oil Company of Canada Limited, \$500 grant-in-aid.

From Canadian Industries Limited, \$300 grant-in-aid.

From Western Leaseholds Ltd., \$250 grant-in-aid.

From Canadian Fina Oil Limited, \$250 grant-in-aid.

From DuPont Company of Canada, \$200 grant-in-aid.

From DuPont Company of Canada, \$200 grant-in-aid.

From the Procter & Gamble Company of Canada Ltd., \$600 grant-in-aid.

From Ellison Milling and Elevator Company, \$651.08 for Soft Wheat Research.

From the Western Canada Dental Society, \$2,000 to the Garvin Scholarship Fund.

From Mrs. H. Lawrence, pressed algae to the Department of Botany.

From the Graduating Class of 1958, \$110.

From Mr. J. Weber, camera equipment to the Department of Experimental Surgery.

From Canadian Chemical Company, \$400 for a continuing program of research related to the petrochemical industry.

From the Canadian Renderers Association Inc., \$1,500 to the Department of Plant Science.

From General Motors of Canada Limited, \$2,000 grant-in-aid.

From Cyanamid of Canada Limited, \$1,800 for research under the direction of Dr. B. Hocking.

From the Kiwanis Club of Calgary, \$300 scholarship.

From the Harvie Foundation, \$3,000 to the Alfalfa project in the Department of Plant Science.

From the Canadian Well Logging Society, \$75 to assist in the operation of the earth current observatory at Calmar, Alberta under the direction of Dr. G. D. Garland.

From Dr. J. S. Stewart, \$100 to assist in dental research.

From the Shevchenko Foundation, \$50 to the Gonsett Memorial Library.

From the Hoover Company, demonstration equipment valued at \$375 to the School of Household Economics.

From the Multiple Sclerosis Society, Edmonton Chapter, \$175 for research in the Department of Physiology.

From the W. K. Kellogg Foundation, \$34,420 being the 1958-59 grant to the Faculty of Education.

From the Alberta Wheat Pool, \$4,000 for alfalfa research in the Department of Plant Science, and \$380 for nitrogen fertilizer research in the Department of Soil Science.

From Mrs. E. C. Munson, \$100 for medical research under the direction of Dr. C. M. Couves.

From the California Standard Company, \$500 grant-in-aid.

From Texaco Exploration Company, books valued at \$2,500 to the Faculty of Law.

From Alberta Oil Tool Co. Ltd., \$150 special bursary for graduate student in Petroleum Engineering.

From the Muttart Foundation, \$6,000 to support the Chair in Medicine.

From the Canadian Women's Theatre Guild, the Elizabeth Sterling Haynes Scholarship Fund.

From the Nutrition Foundation Inc., \$2,500 to assist in the study of the relationship of Vitamin E and B6 to blood and brain lipids being carried out by Dr. E. T. Pritchard.

From the Federated Republic of Germany, a gift of German books.

From Sheritt Gordon Mines Limited, \$150 for research under the direction of Dr. J. G. Parr.

From Mr. N. D. McDermid, \$500.

From the McCullough Tool Company, \$1,500 for needy students in Petroleum Engineering.

From Imperial Oil Limited, \$3,000 grant-in-aid to University and \$1,250 grant-in-aid to the Department of Geology.

From Canadian Chemical & Cellulose Company Ltd., \$1,100 to the Department of Chemical Engineering.

From Dr. Baden Powell, \$50 to the Post-Graduate Fund in Dentistry.

From Mr. N. J. Tidsbury, \$100 to the Student Loan Fund.

From the Muscular Dystrophy Association of Canada, \$19,700 for research under the direction of Dr. C. M. Kay.

From C. H. Grant, Q.C., an unbound set of the Canada Bar Review, Volumes 1-35, and the Annual Proceedings of the Canada Bar Association from 1914-date, to the Faculty of Law.

From K. A. McKenzie, Q.C., to the Faculty of Law, Volumes 1 to 24 of the Ontario Law Reports, Volumes 25 to 32 of the Ontario Reports and Volumes 1-17 of Canadian Criminal Cases.

From Lyburn, Cobble Dick and Klinge, \$500 being a grant from the Robert Tegler Trust for Multiple Sclerosis research.

From Interprovincial Cooperatives Limited, \$750 for experimental work with fertilizers in the Department of Soil Science.

From Western Business Research Institute, \$3,500 to the Business Education Program of the Banff Centre for Continuing Education.

From the Canadian Foundation for the Advancement of Pharmacy, \$500 to the Faculty of Pharmacy to support a student to carry on research during the summer.

From Mrs. I. Gonsett, \$500 to the Gonsett Library Fund for Ukrainian books.

From Calgary Power Ltd., subscription to C.I.G.R.E. for the year 1959 to the Faculty of Engineering.

From the Cultural Committee of the Canadian Polish Congress, 160 books about Poland, to the Rutherford Library.

From Merck, Sharp & Dohme, \$200 for a visiting lecturer in Medicine.

From International Nickel Company of Canada Ltd., \$5,000 to assist teachers and/or guidance counsellors in preparatory schools at a summer seminar at this University.

From International Nickel Company of Canada Limited, \$20,000.

From Western Canada Ropes, \$100 to the President's Trust Fund.

From the Alberta Chapter, Canadian Foundation for Poliomyelitis & Rehabilitation, \$479.20 to the Medical Library for 1957 and 1958.

From Mr. Basil Dean, Calgary Herald, \$1,000 to the Banff School of Fine Arts Building Fund.

From the National Heart Foundation of Canada, \$2,450 for heart research under Dr. E. C. Elliott.

From the Alberta Tuberculosis Association, \$396.05 to the Library.

From Mr. and Mrs. G. K. Watts, \$50 towards heart research under the direction of Dr. R. S. Fraser.

From the Alberta Home Economics Association, \$150 to the Mabel Patrick Award Fund.

From Mr. K. M. Johnson, \$10 to the Department of Extension.

From Sandoz Pharmaceuticals, \$50 to the Department of Physiology and Pharmacology for books.

From Amchem Products Inc., \$500 for weed control research under the direction of Dr. W. G. Corns.

From the Edmonton Civic Employees, \$8,000 for a fellowship at the McEachern Laboratory.

From Canadian Industries Limited, \$1,600 to the Department of Zoology.

From Cyanamid of Canada, \$1,800 for research under Dr. W. G. Evans.

From International Nickel Company of Canada Ltd., \$5,000 grant for titanium research under the direction of Dr. J. G. Parr.

From the College of Physicians and Surgeons, \$300 to the Library.

From Mr. W. B. Gill, \$10 to the President's Trust Fund.

From Eldorado Mining and Refining Limited, \$15,000 to the Department of Mining and Metallurgy for research under the direction of Prof. Lilge.

From the Multiple Sclerosis Society of Canada, \$1,670 for research under the direction of Dr. J. D. Taylor.

From the Class of '59, \$110 to commission a portrait of Dr. Andrew Stewart by Prof H. G. Glyde.

From Mr. H. A. Dyde, gift of land—north half of NW 15-51-26-W4.

From the Department of Citizenship and Immigration, \$500 to the Department of Extension to assist with the Rural Leadership Course in Banff.

From the Edmonton Home Economics Association, \$350 to the Mabel Patrick Award Fund.

From Dr. and Mrs. M. R. Marshall, portraits of Dr. J. J. Ower and Dr. J. W. Scott, to be placed in the Medcial Building.

From the Department of National Defence, \$45,340.

To the Banff School of Fine Arts Scholarship Fund, \$9,195.09.

To the Banff Foundation, \$2,000.

From the National Cancer Institute, \$40,672.09.

From Canadian Cancer Society, \$12,950.

From the Canadian Department of Agriculture, \$29,600.

From the National Research Council, \$288,000.

Table VII—New Scholarships and Prizes

(Scholarships and Prizes which were presented to the University in earlier years and which continue to be provided annually by the donors are acknowledged in the General Section of the University Calendar.)

The Johnson Foundation Graduate Scholarship Award, to be awarded to a graduating student registered at a Canadian University of a maximum value of \$1,800, according to need, to cover the cost of travel and one academic year of study at a United States University or College of the student's selection.

The Carswell-Sweet and Maxwell Scholarship in Law, to be awarded to a student in final year or post-graduate law studies in Canada in the amount of \$2,000 plus cost of travel to Great Britain return, tenable for one year at Cambridge University. Post-graduate work must be done in Anglo-Canadian law.

The University of Alberta Alumni Prize in Fine Arts for \$100, to be awarded annually by the General Alumni Association to the student in the Art Division of the Department of Fine Arts who has demonstrated the best progress. Financial need will be considered.

The Professor Osman James Walker Memorial Scholarship to be awarded annually to the student selected by the department of Chemistry graduating from the University of Alberta in the pass or honors program and who will be proceeding to graduate work in the Department of Chemistry at the University of Alberta.

The University Women's Club of Calgary Scholarship, increased from \$100 to \$200 beginning in the spring of 1960.

The Alberta Pharmaceutical Association prize consisting of registration with the Association for the student preparing the best thesis in Pharmacy 433, provided the record of the student is otherwise acceptable.

The Ukrainian Catholic Women's Award in the Ukrainian language for \$100 is awarded to the student with the highest standing in Ukrainian 100 provided the student's record is otherwise satisfactory to the Faculty Council.

The Calgary and District Retail Druggists' Association Scholarship for \$250 offered to a student of outstanding merit entering first year Pharmacy.

The Radio Station CFAC (Calgary) Scholarship in Music Composition for \$100 offered annually to a student registered in one or more courses in Music and who has shown promise in Composition.

The University Women's Club of Edmonton Bursary, increased from \$200 to \$250.

The Surgical Research Prize of \$50 to be awarded to a third or fourth year student in Medicine for the best manuscript submitted on an original Surgical Research topic.

The Ernest Wilson Sheldon Memorial Prize in Mathematics for \$50 to be awarded to a student of outstanding merit completing the third year of the honors program in mathematics.

Dr. J. M. MacEachran Gold Medal in Psychology.

The Canadian Bechtel Limited Bursary in Engineering valued at \$600 awarded annually on the basis of evidence of financial need and of matriculation standing to a matriculant from an Alberta High School qualified for admission to first year engineering.

The Canadian Bechtel Limited Special Bursary for 1958-59 of \$600 to be awarded to a Hungarian student from the University of Sopron for post-graduate work in petroleum engineering at the University of Alberta.

The Canadian Superior Bursary, offered by Canadian Superior Oil of California, to a male Canadian citizen entering first year of a course in geology or petroleum engineering. It will cover tuition fees and textbooks for a four-year period if a satisfactory standing is maintained.

The City of Medicine Hat Scholarship of \$500 offered annually to a student matriculating into the University of Alberta who has attended a Medicine Hat school from Grade VII to Grade XII.

The Loveseth Limited Scholarships in Agriculture: 4 scholarships of \$250 each are offered annually to students of outstanding merit entering second, third or fourth year Agriculture.

The Dr. O. J. Walker Memorial Prize of \$25, offered by the Alumni of Phi Delta Theta Fraternity to a student of outstanding merit in Chemistry 58.

The Northern Electric Undergraduate Scholarship, awarded annually to a student of outstanding merit who is proceeding into the second, third or fourth year of Electrical Engineering, Engineering Physics or Honors Physics, provides an amount not exceeding \$500 to cover tuition and general fees and the cost of books for one year.

The Nathan Browne Eddy Prize in Pharmacology, offered by Hoffman-LaRoche Ltd., to the value of about \$40, to a student who has successfully completed the second year of Medicine with an average standing of at least 75%, and has shown outstanding merit in the course in Pharmacology.

Table VIII—Staff Publications

Department of Anaesthesia

Undergraduate Teaching of Anaesthesia. Editorial—E. A. Gain, M.D. Canadian Anaesthetists Society Journal.

The Practical Value of the Electroencephalogram during Anaesthesia—E. A. Gain, M.D. Canadian Anaesthetists Society Journal. Presented—to Western Division Meeting of Canadian Anesthetists Society—Saskatoon.

Anaesthesia for Open-Heart Surgery—E. A. Gain, M.D. Canadian Nurse.

Department of Anatomy

R. F. Shaner. The "high" defect in the atrial septum. Canadian Medical Association Journal 78: 688-690, 1958.

H. E. Rawlinson. Frank Hamilton Mewburn. Canadian Journal of Surgery, 2: 1-5, 1958.

J. S. Thompson. The Canadian Student—Western Style. Journal of Medical Education, 33: 790, 1958.

J. S. Thompson: Resquiescat in Pace, Anatomy the Science. Journal of Medical Education, 33:810, 1959.

J. S. Thompson: The University of Alberta, Faculty of Medicine. Canadian Medical Association Journal, April 1, 1959.

J. S. Thompson: Some Factors shaping Medical School Policy. Canadian Medical Association Journal, April 1, 1959.

W. R. Salt. The Birds of Alberta. Hamly Press, 1959.

W. R. Salt. In Memoriam, Wiliam Rowan. Auk. 75: 387-390.

W. R. Salt. Sarcocystis rileyi in Sage Grouse. Journal Parasitology, 44:511.

W. R. Salt. Black-throated blue warbler in Alberta. Canadian Field-Naturalist, 72:165.

M. W. Thompson. The Heredity Counseling Service. Alberta Medical Bulletin, 24:13.

M. W. Thompson. Medical Genetics in Alberta. Proc. Genetics Society of Canada, 1959.

Department of Animal Science

Asplund, J. M., Berg, R. T., McElroy, L. W., and Pigden, W. J. Dry matter loss and volatile fatty acid production in the artificial rumen as indices of forage quality. Can. J. Animal Sci. 38:171-180. 1958.

Bell, J. M., Bowland, J. P., Cameron, C. D. T., Crampton, E. W., Lloyd, L. E., Seale, M. E., and Whiting, F. Nutrient Requirements for Canadian Yorkshire Swine. II. The effects of barley and oat finishing rations on rate of gain, feed utilization and carcass quality of pigs marketed at 185 and 200 pounds liveweight. Can. J. Animal Sci. 38:73-83. 1958.

Berg, R. T. and Bowland, J. P. Observations on genotypic response of swine to energy and protein levels in the ration. Proc. X International Congress of Genetics II: 24 (abstr.). 1958.

Bowland, J. P. and Berg, R. T. Restricted feed intake in market pigs. Proc. West. Sect. Amer. Soc. Animal Prod. 9: XIX 1-5. 1958.

Bowland, J. P., Sibbald, I. R., Berg, R. T., and Hussar, N. Influence of dietary fat on energy consumption and digestion and on nitrogen utilization of weanling rats. Can. J. Animal Sci. 38:187-193. 1958.

Bowstead, J. E. Sheep Production in Alberta. Univ. Alta. Bul. 52 (revised). June, 1959.

Clandinin, D. R., Renner, Ruth, and Robblee, A. R. Factors affecting the nutritive properties of rapeseed oil meal. World's Poultry Congress Report. 1958.

Clandinin, D. R. and Robblee, A. R. Optimum calorie to protein ratio for pheasant starters. Poultry Sci. 37: 1194. 1958.

Goswami, M. N. D. and Robblee, A. R. Aspartic-glumatic transaminase activity in chick liver. Poultry Sci. 37: 96-99. 1958.

McElroy, L. W. Cattle Finishing in Alberta. Univ. Alta. Bul. 57 (2nd ed.). December, 1958.

Robblee, A. R. Influence of perosis-inducing deficiencies on liver glycogen and blood glucose levels. World's Poultry Congress Report. 1958.

Robblee, A. R. and Clandinin, D. R. The relationship of energy and protein to reproductive performance in turkey breeders. Poultry Sci. 38: 141-145. 1959.

Staff. Thirty-eighth Annual Feeders' Day Report. Univ. Alta. Press Bul. June, 1959.

Department of Bacteriology

Acquired Aortic Sinus Aneurysm Caused by *Haemophilus aphrophilus*. Toshach, Sheila, and Bain, Gordon O. American J. Clin. Path., 30, No. 4. 328-335, (October) 1958.

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Table IX—Student Registration

SECTION A—FULL-TIME STUDENTS (Winter Session)										
Division I—Edmonton Campus										
Arts and Science										
	1st Year		2nd Year		3rd Year		4th Year		5th Year	
	M	F	M	F	M	F	M	F	M	F
B.A.	75	88	113	63	97	58	8	3	...	...
B.Sc.	216	41	165	38	135	31	17	4	...	...
B.A., B. Com.	1	...	1	...	...	...	...	...	...	...
B.A., LL.B.	37	4	23	2	...	...	...	...	...	...
Pre dent	23	...	...	...	...	...	...	...	...	...
B.A. after B.Ed.	...	...	...	...	...	...	1	...	...	...
Dip. in Art	2	...	...	...	...	...	...	3	...	...
B. Mus.	1	2	...	...	...	...	...	...	...	...
Sub-Totals, Arts and Science	353	137	302	103	232	89	26	10	...	...
Agriculture										
	39	...	20	...	16	...	32	...	...	...
Commerce										
	56	9	37	2	41	2	...	...	...	...
Dentistry										
	30	...	26	1	28	...	24	1	...	...
Education										
B.Ed.	83	129	62	153	31	29	30	38	...	...
B.Ed. in Agric.	...	...	...	...	...	...	...	...	...	...
B.Ed. in Ind. Arts	...	...	...	...	...	...	1	...	...	...
B.Ed. after Prev. Degree	...	...	...	...	...	...	49	33	...	...
B.Ed. in Phys. Ed.	...	...	...	...	...	...	...	...	...	...
Junior E	87	253	...	...	...	...	...	...	...	...
Sub-Totals—Education	170	382	62	153	31	29	80	71	...	...
Engineering										
Civil	27	...	118	2	74	...	59	...	...	...
Chemical	25	...	61	1	51	...	34	...	...	...
Electrical	34	...	97	...	62	...	37	...	...	...
Mining	4	...	9	...	4	...	6	1	...	...
Petroleum	5	...	24	...	21	...	22	...	...	...
Engin. Physics	4	...	2	...	12	...	6	...	...	...
Engin. Geol.	2	...	...	...	...	...	...	...	...	...
Metallurgical	1	...	5	...	3	...	7	...	...	...
Mechanical	9	...	33	...	19	...	...	...	...	...
Not Specified	254	...	...	...	...	...	...	...	...	...
Sub-Totals—Engineering	365	...	349	3	246	...	171	1	...	...
Males										
57-58	256	293	447	333	56	60	24	23	...	...
58-59	256	293	447	333	56	60	24	23	...	...
Females	...	...	...	...	...	...	...	...	...	...
57-58	193	212	93	114	7	6	...	...	...	...
58-59	193	212	93	114	7	6	...	...	...	...
Total	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59
58-59	505	505	647	647	66	66	24	23	...	...
59-60	1	1	5	5	2	2	...	...	...	...
60-61	2	2	2	2	...	...	...	...	...	...
61-62	...	...	...	...	...	...	...	...	...	...
62-63	...	...	...	...	...	...	...	...	...	...
63-64	...	...	...	...	...	...	...	...	...	...
64-65	...	...	...	...	...	...	...	...	...	...
65-66	...	...	...	...	...	...	...	...	...	...
66-67	...	...	...	...	...	...	...	...	...	...
67-68	...	...	...	...	...	...	...	...	...	...
68-69	...	...	...	...	...	...	...	...	...	...
69-70	...	...	...	...	...	...	...	...	...	...
70-71	...	...	...	...	...	...	...	...	...	...
71-72	...	...	...	...	...	...	...	...	...	...
72-73	...	...	...	...	...	...	...	...	...	...
73-74	...	...	...	...	...	...	...	...	...	...
74-75	...	...	...	...	...	...	...	...	...	...
75-76	...	...	...	...	...	...	...	...	...	...
76-77	...	...	...	...	...	...	...	...	...	...
77-78	...	...	...	...	...	...	...	...	...	...
78-79	...	...	...	...	...	...	...	...	...	...
79-80	...	...	...	...	...	...	...	...	...	...
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82-83	...	...	...	...	...	...	...	...	...	...
83-84	...	...	...	...	...	...	...	...	...	...
84-85	...	...	...	...	...	...	...	...	...	...
85-86	...	...	...	...	...	...	...	...	...	...
86-87	...	...	...	...	...	...	...	...	...	...
87-88	...	...	...	...	...	...	...	...	...	...
88-89	...	...	...	...	...	...	...	...	...	...
89-90	...	...	...	...	...	...	...	...	...	...
90-91	...	...	...	...	...	...	...	...	...	...
91-92	...	...	...	...	...	...	...	...	...	...
92-93	...	...	...	...	...	...	...	...	...	...
93-94	...	...	...	...	...	...	...	...	...	...
94-95	...	...	...	...	...	...	...	...	...	...
95-96	...	...	...	...	...	...	...	...	...	...
96-97	...	...	...	...	...	...	...	...	...	...
97-98	...	...	...	...	...	...	...	...	...	...
98-99	...	...	...	...	...	...	...	...	...	...
99-00	...	...	...	...	...	...	...	...	...	...
00-01	...	...	...	...	...	...	...	...	...	...
01-02	...	...	...	...	...	...	...	...	...	...
02-03	...	...	...	...	...	...	...	...	...	...
03-04	...	...	...	...	...	...	...	...	...	...
04-05	...	...	...	...	...	...	...	...	...	...
05-06	...	...	...	...	...	...	...	...	...	...
06-07	...	...	...	...	...	...	...	...	...	...
07-08	...	...	...	...	...	...	...	...	...	...
08-09	...	...	...	...	...	...	...	...	...	...
09-10	...	...	...	...	...	...	...	...	...	...
10-11	...	...	...	...	...	...	...	...	...	...
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12-13	...	...	...	...	...	...	...	...	...	...
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88-89	...	...	...	...	...	...	...	...	...</	

Table IX—Student Registration—continued

	1st Year 58-59		2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males 57-58 58-59		Females 57-58 58-59		Total 57-58 58-59	
	M	F	M	F	M	F	M	F	M	F	57-58	58-59	57-58	58-59	57-58	58-59
Household Economics																
B.H.Ec.	29		14			19							71	62	71	62
B.H.Ec.													1		1	
Sub-Totals—House Ec.	29		14			19							72	62	72	62
Law	34	4	27	1	28	2					83	89	6	7	89	96
Medicine																
M.D.	47	4	52	5	50	2	53	1			201	202	9	12	210	214
B.Sc. in Medicine	1											1				1
B.Sc. in Med. Lab. Sci.	17												17			17
Sub-Totals—Medicine	48	21	52	5	50	2	53	1			201	203	9	29	210	232
Nursing																
B.Sc.		37		18		23		19		24			94	121	94	121
Diploma		149		88		77			1	19			281	314	282	314
Dip. in Pub. Health												1	13	19	13	20
Dip. in T. & S.										11			11	11	11	11
Sub-Totals—Nursing		186		106		100		19	1	54		1	399	465	400	466
Pharmacy	28	35	34	22	28	14					88	90	51	71	139	161
Physiotherapy		25		22									44	47	44	47
Physical Education	21	6	10	8	17	8					35	48	20	22	55	70
Graduate Studies																
M.A.																
M.Sc. (Arts)											32	34	16	19	48	53
M.Sc. (Agric.)											39	34	4	3	43	37
M.Sc. (Engin.)											17	15			17	15
M.Sc. (Pharm.)											42	50			42	50
M.Sc. (Med.)											3	4	1	3	2	5
M.Ed.											41	41	10	14	51	55
Ph.D.											31	42	3	2	34	44
Ed.D.											34	61		5	34	66
Provis. Grad.												26		7		33
Special Grad.																
Sub-Totals, Graduate Studies											240	307	34	51	274	358

Bachelor of Divinity

TOTALS EDMONTON CAMPUS

Division II—Calgary Campus

Arts and Science

B.A.
 B.Sc.
 B.A. LL.B.
 Precent

Sub-Totals—Arts & Science

Commerce

Education

B.Ed.
 B.Ed. in Ind. Arts
 B.Ed. after Prev. Degree
 Junior E.

Sub-Totals, Education

Physical Education

Engineering

Civil
 Chemical
 Electrical
 Petroleum
 Engin. Physics
 Mechanical
 Not specified

Sub-totals—Engineering

Nursing B.S.

TOTALS—CALGARY CAMPUS

GRAND TOTAL, SECTION A

FULL-TIME STUDENTS

	17	19	2	1	19	20
TOTALS EDMONTON CAMPUS	3081	3493	1543	1748	4624	5241
Division II—Calgary Campus						
Arts and Science						
B.A.	10	17	16	21	26	38
B.Sc.	24	51	10	6	34	57
B.A. LL.B.	7	11	...	1	7	12
Precent	6	4	...	...	6	4
Sub-Totals—Arts & Science	47	83	26	28	73	111
Commerce	16	18	3	2	19	20
Education						
B.Ed.	24	53	57	82	81	135
B.Ed. in Ind. Arts	17	28	1	...	18	28
B.Ed. after Prev. Degree	...	13	...	5	...	18
Junior E.	32	35	121	105	153	140
Sub-Totals, Education	73	129	179	192	252	321
Physical Education	...	1	1	...	1	1
Engineering						
Civil	11	13	...	...	11	13
Chemical	5	14	...	...	5	14
Electrical	6	18	...	...	6	18
Petroleum	3	6	...	...	3	6
Engin. Physics	2	2	...	...	2	2
Mechanical	4	4	...	...	4	4
Not specified	30	14	...	...	30	14
Sub-totals—Engineering	55	71	...	...	55	71
Nursing B.S.	...	...	19	19	19	19
TOTALS—CALGARY CAMPUS	191	302	228	241	419	543
GRAND TOTAL, SECTION A	3272	3795	1771	1989	5043	5784
FULL-TIME STUDENTS						

Table IX—Student Registration—continued

SECTION B—PART-TIME STUDENTS—DAYTIME CLASSES (Winter Session)										
Division I—Edmonton Campus										
1st Year 58-59	2nd Year 58-59	3rd Year 58-59	4th Year 58-59	5th Year 58-59	Males			Females		Total
M	F	M	F	M	M	F	57-58	58-59	57-58	58-59
...	...	...	...	...	...	...	23	30	10	15
...	...	...	...	...	...	...	4	...	1	...
...	...	...	...	...	...	...	7	11	15	16
...	...	...	...	...	...	...	4	9	...	...
...	...	...	...	...	...	...	...	...	2	...
...	...	...	...	...	...	...	1	1	2	1
...	...	...	...	...	...	...	6	5	2	1
...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	...	...	1
TOTALS—DIVISION I					45	55	30	34	75	89
Division II—Calgary Campus										
...	...	...	...	...	...	...	10	15	5	10
...	...	...	...	...	...	...	3	3	...	...
...	...	...	...	...	...	...	19	32	49	66
...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	...	...	1	...
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...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...

	Calgary	Total	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Camrose	Holden	Grande Prairie	Barrhead	Total
Education													
Edmonton	76	118	118	187	305	194	305						576
Calgary	19	31	29	66	97	48	97						305
Lethbridge	17	....	10	....	....	27	....						97
Medicine Hat	....	....	2	....	....	6	....						....
Red Deer	7	26	13	30	....	20	....						56
Vegreville	24	28	5	8	....	29	....						36
Camrose	10	14	8	17	....	18	....						31
Holden	3	11	8	13	....	11	....						24
Grande Prairie	....	4	....	7	....	....	....						11
Barrhead	....	4	....	12	....	....	....						16
Total	160	236	193	340	353	576	....						....
Engineering													
Edmonton	1	....	....	....	....	1	....						....
Household Economics													
Edmonton	....	....	1	1	1	1	....						1
Camrose	....	....	....	1	....	....	....						1
Total	....	....	1	2	1	2	....						....
Nursing													
Edmonton	....	....	4	2	....	4	....						2
Calgary	....	....	....	1	....	....	....						1
Total	....	....	4	3	....	4	....						3
Pharmacy													
Edmonton	1	....	....	....	....	1	....						....
Graduate Studies													
Edmonton	4	1	....	....	....	4	....						1
M.A.	25	20	6	8	....	31	....						28
M.Ed.	1	....	....	....	....	1	....						....
Provisional Grad.	....	....	1	....	....	....	....						....
Calgary	....	....	3	....	....	....	....						3
M.A.	....	....	....	....	....	....	....						....
M.Ed.	1	....	....	....	....	1	....						....
Lethbridge	....	....	....	....	....	....	....						....
M.A.	....	....	....	....	....	....	....						....
Total	31	24	7	8	....	38	....						32
GRAND TOTAL—SECTION C	251	320	236	392	487	712	....						....

Table IX—Student Registration—continued

SECTION D—SPECIAL STUDENTS									
Regular Winter Session—Edmonton and Calgary									
Evening Credit Program									
1st Year	2nd Year	3rd Year	4th Year	5th Year	Males		Females		Total
58-59	58-59	58-59	58-59	58-59	57-58	58-59	57-58	58-59	57-58 58-59
M	M	M	M	M	F		F		
...	...	...	...	...	62	75	29	74	91 149
...	...	...	...	...	39	46	10	23	49 69
...	...	...	...	...	1	8	4	5	5 13
...	...	...	...	...	2	...	...	...	2 ...
...	...	...	...	...	...	...	2	...	2 ...
...	...	...	...	...	1	2	1	1	2 3
...	...	...	...	...	3	3	...	...	3 ...
...	...	...	...	...	2	1	...	5	2 6
...	...	...	...	...	...	...	...	1	1 ...
...	...	...	...	...	...	1	...	3	4 ...
...	...	...	...	...	107	136	46	112	153 248
GRAND TOTAL—SECTION D									
GRAND TOTAL—PART I									
...	...	...	...	...	3708	4356	2138	2603	5846 6959
PART II SUMMER SESSION 1958									
Edmonton	...	...	...	...	843	966	1063	1258	1906 2224
Banff School	...	...	...	...	...	...	...	...	...
University Credit	...	...	...	...	9	3	31	16	40 19
Non-credit courses	...	...	...	...	80	87	380	461	460 548
TOTAL, PART II	...	...	...	...	932	1056	1474	1735	2406 2791
PART III SHORT COURSES									
1958-1959	...	...	...	...	15	...	...	...	15 ...
Diploma in Dairying	...	...	...	...	...	...	...	...	...
Diploma in Advanced Practical	...	...	...	...	...	...	10	7	10 7
Obstetrics	...	...	...	...	...	...	...	...	...
TOTAL, PART III	...	...	...	...	15	...	10	7	25 7

Summary of Totals, Table IX

	1st Year 58-59		2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males		Females		Total	
	M	F	M	F	M	F	M	F	M	F	57-58	58-59	57-58	58-59	57-58	58-59
PART I Winter Session																
Section A—Full Time Day																
Division I Edmonton	...	...	...	...	...	...	...	...	...	...	3081	3493	1543	1748	4624	5241
Division II Calgary	...	...	...	...	...	...	...	...	...	...	191	302	228	241	419	543
Section B—Part-time Day																
Division I Edmonton	...	...	...	...	...	...	...	...	...	...	45	55	30	34	75	89
Division II Calgary	...	...	...	...	...	...	...	...	...	...	33	50	55	76	88	126
Section C—Part-time																
Evening Credit Program	...	...	...	...	...	...	...	...	...	...	251	320	236	392	487	712
Section D—Special Students	...	...	...	...	...	...	...	...	...	...	107	136	46	112	153	248
PART II Summer Session 1958	...	...	...	...	...	...	...	...	...	...	932	1056	1474	1735	2406	2791
PART III Short Courses 1958-59	...	...	...	...	...	...	...	...	...	...	15	...	10	7	25	7
G R A N D T O T A L	...	...	...	...	...	...	...	...	...	...	4655	5412	3622	4345	8277	9757

Table X—Distribution of Students According to Age and Sex

Age	Male	Female	Total
14	1	.....	1
16	17	20	37
17	186	236	422
18	536	624	1160
19	621	451	1072
20	534	276	810
21	437	161	588
22	375	103	478
23	291	55	346
24	191	50	241
25	176	43	219
26	133	28	161
27	103	30	133
28	107	24	131
29	82	17	99
30	68	25	93
31	51	24	75
32	47	29	76
33	50	18	68
34	37	23	60
35	27	25	52
36	24	23	47
37	20	21	41
38	25	23	48
39	21	14	35
40	11	22	33
41	12	18	30
42	21	18	39
43	29	17	46
44	15	23	38
45	13	15	28
46	17	20	37
47	14	24	38
48	9	10	19
49	3	9	12
50	14	21	35
51	7	15	22
52	3	8	11
53	5	15	20
54	6	6	12
55	1	7	8
56	3	5	8
57	2	5	7
58	3	2	5
59	1	3	4
60	1	1	2
61	1	2	3
62	0	1	1
63	1	0	1
64	1	0	1
66	0	1	1
67	1	0	1
70	0	1	1
73	1	0	1
	4356	2603	6959

Table XI—Classification of Students According to Religious Denomination

	Male	Female	Total
Anglican	460	356	816
Baptist	161	82	243
Christian Science	2	6	8
Church of Christ	7	9	16
Church of Nazarene	16	11	27
Greek Catholic	77	41	118
Greek Orthodox	219	95	314
Hebrew	98	35	133
Latter Day Saint (Mormon)	104	60	164
Lutheran	268	139	407
Methodist	6	5	11
Presbyterian	103	78	181
Protestant (Church not Specified)	31	15	46
Roman Catholic	684	391	1075
Russian Orthodox	4	2	6
Seventh Day Adventist	5	4	9
Ukrainian Orthodox	43	23	66
United	1595	1061	2656
Others	304	155	459
Not Specified	169	35	204
	4355	2602	6959

Table XII—Distribution of Students According to Sex and Marital Status

	Male	Female	Total
Single	3271	2168	5439
Married	1080	387	1467
Divorced	3	11	14
Widowed	2	37	39
	4356	2603	6959

Table XIII—Distribution of Students According to Birthplace of Father

A. British Empire—Commonwealth:

(a) Canada:

Alberta: Edmonton	203
Calgary	109
Lethbridge	32
Medicine Hat	33
Red Deer	25
Vegreville	27
Wetaskiwin	27
Camrose	20
Cardston	28
On or North of Twp. 38	450
South of Twp. 38	285
Not specified	75

— 1307

Canada — not otherwise specified	115
Newfoundland	15
Nova Scotia	106
Prince Edward Island	33
New Brunswick	63
Quebec	121
Ontario	674
Manitoba	295
Saskatchewan	320
British Columbia	75
Yukon and N.W.T.	2
	3126

(b) Other Parts of British Empire—Commonwealth

British Isles (including Eire)	1080
Dominions (S. Africa, New Zealand, Australia)	18
All other British colonies, dependencies and members of the Commonwealth (including India, Pakistan, Ceylon, Rhodesia, Kenya, Guiana, etc.)	45
	1143

B. Countries Outside British-Empire Commonwealth:

United States of America	680
Poland and Czechoslovakia	314
Russia and Ukraine	488
Balkan States	68
Scandinavian States	193
Germany - Austria	347
France	21
Hungary	58
China, Japan	113
Holland	81
Others	161
	2524

C. Information not specified

166

TOTAL

6959

Table XIV—Distribution of Students According to Father's Occupation

This table will appear only once in five years, the next occasion being the Report for 1962-63.

Table XV—Distribution of First Year Students Not Previously in Attendance
According to Faculty and Home Address (Excluding Evening Credit Program)

ATTENDING EDMONTON

FACULTY	ATTENDING EDMONTON																		Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified	
Arts and Science	206	28	8	4	13	2	3	5	2	2	79	50	7	24	4	1		3	441
Agriculture	5	1	1	1	1	1	1	1	1	1	17	10	1	1	1			1	36
Commerce	30	3	2	5	9	1	5	4	4	6	299	59	1	10	1			2	515
Education	107	1	1	1	1	1	1	1	1	1	8	8	1	3	3			1	23
Physical Education	9	1	1	2	6	1	3	1	1	1	84	69	1	13	3	1	3	1	321
Engineering	115	9	9	1	1	1	1	1	1	1	5	5	1	1	1			1	28
Household Economics	12	1	2	1	1	1	1	1	1	1	4	4	1	2	2			1	15
Medicine (Med., Lab. Sci.)	7	1	1	1	1	1	1	1	1	1	3	3	3	5	1			1	20
Physiotherapy	4	3	2	2	1	1	3	4	1	1	53	20	20	20	1			1	165
Nursing (including diplomas)	48	9	2	2	1	1	1	1	1	1	18	9	1	2	1			1	57
Pharmacy	22	2	1	1	1	1	1	1	1	1	1	1	1	1	1				57
Totals	565	58	27	15	35	5	14	17	7	11	573	230	9	85	9	2	3	7	1672

ATTENDING CALGARY

Arts and Science	1	87	...	...	1	...	...	...	...	3	8	...	...	1	...	...	101
Commerce	4	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
Education	4	68	2	3	1	...	...	...	4	11	105	3	9	...	...	...	210
Physical Education	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Engineering	52	1	2	1	2	...	...	...	...	3	10	...	...	...	...	...	68
Nursing	2	2	...	...	...	...	...	...	...	2	2	...	...	...	...	...	4
Totals	5	228	3	5	2	...	...	...	4	17	125	3	9	1	...	...	402

Table XVI—Distribution of Daytime Students by Faculty and Home Address
ATTENDING EDMONTON

FACULTY	EDMONTON																	Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries		Not specified
Arts and Science	583	156	23	10	35	4	6	10	4	4	195	157	13	74	9	5	2	7 1297
Agriculture	15	1	3	1	1	1	1	1	1	1	43	37	1	3	1	1	1	107
Commerce	73	12	3	1	2	1	1	1	1	1	28	13	6	6	2	2	2	2 148
Dentistry	33	16	1	1	1	1	1	1	1	1	10	6	2	29	2	2	1	2 110
Education	289	15	14	10	16	6	7	7	7	11	472	136	2	29	2	6	1	2 1005
Physical Education	29	2	1	4	1	1	5	3	1	2	17	6	6	6	7	4	1	70
Engineering	445	104	29	10	17	1	5	4	2	3	264	169	7	63	7	4	9	1 1144
Household Economics	23	6	3	1	1	1	1	1	1	3	14	11	3	3	4	1	1	63
Law	55	16	2	2	1	1	1	1	2	3	6	7	7	4	1	1	1	96
Physiotherapy	15	4	2	2	1	1	1	1	1	1	5	4	4	15	3	2	1	47
Medicine	99	29	6	2	4	1	1	3	2	5	37	28	4	10	3	2	1	232
Nursing	149	29	14	4	11	3	9	7	1	5	129	56	2	49	3	2	1	468
Pharmacy	74	13	6	1	3	1	1	1	1	3	44	17	4	4	4	1	1	166
Graduate Studies	181	27	4	3	3	3	1	2	1	1	22	18	20	25	34	6	4	6 357
B.D.	9	2	1	1	1	1	1	1	1	1	4	3	1	2	1	2	1	20
Special Students	97	3	1	1	1	1	1	1	1	1	11	2	1	9	3	1	2	1 132
Totals	2149	425	113	47	94	16	30	42	24	31	1301	670	49	349	63	18	19	22 5462

ATTENDING CALGARY

Arts and Science	1	119	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	136
Commerce	23	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
Education	5	199	8	4	2	1	1	1	1	1	25	152	6	13	1	1	1	419
Physical Education	1	1	1	1	1	1	1	1	1	1	3	10	1	1	1	1	1	71
Engineering	55	55	1	2	1	1	1	1	1	1	3	4	1	1	1	1	1	19
Nursing	14	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Special Students	12	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Totals	6	423	9	7	3	4	4	4	4	4	32	178	8	13	1	1	1	686

Table XVII—Distribution of Evening Credit Program Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY		Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified	Total
Arts and Science	49	3										6			1					59
Commerce	12	1												1						14
Education	218	3	2			1		1		1		56	12	1	7		1		2	305
Household Economics															1					1
Nursing	2																			2
Graduate Studies	24	1										1	3							29
Special Students	53				1							10	1		4					69
Totals	358	8	2	1	1	1		1		1		73	16	2	13		1		2	479

ATTENDING CALGARY

Arts and Science	14																			14
Commerce	3																			3
Education	73	1							1			6	12	1	2			1		97
Nursing	1																			1
Graduate Studies	3																			3
Special Students	10			1									1	1						13
Totals	104	1							1			6	13	2	2			1		131

ATTENDING VEGREVILLE

FACULTY	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified	Total
	1	1				1					1	1							2
						16					19								36
						2					1								3
	Totals	1				19					21								41
Arts and Science																			
Education	1																		
Special Students																			

ATTENDING RED DEER

Arts and Science					1							1							2
Education	2	2			19						16	16	1						56
Special Students					1						2								3
Totals	2	2			21						18	17	1						61

ATTENDING HOLDEN

Arts and Science																			1
Education											1								24
Special Students											6								6
Totals											31								31

[illegible][illegible][illegible]

Table XVIII—Distribution of Students According to Pattern, Honors and Branch

Arts and Science	1st Year					2nd Year					3rd Year					4th Year					Total	
	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59
B.A.—Pattern																						
English	19	28	18	25	23	15	23	15	23	15	23	15	23	15	23	15	23	15	23	15	23	15
Music	5	7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Foreign Language or Literature	12	22	11	9	9	6	9	6	9	6	9	6	9	6	9	6	9	6	9	6	9	6
History	22	30	23	44	18	24	18	24	18	24	18	24	18	24	18	24	18	24	18	24	18	24
Philosophy	...	17	...	1	...	6	...	6	...	6	...	6	...	6	...	6	...	6	...	6	...	6
Philosophy or Psychology	49	...	47	...	37	...	37	...	37	...	37	...	37	...	37	...	37	...	37	...	37	...
Economics	34	16	27	27	21	30	21	30	21	30	21	30	21	30	21	30	21	30	21	30	21	30
Art	2	3	3	1	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
Political Science	5	5	4	6	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
Geography	2	3	1	4	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3
Drama	2	6	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Sociology	5	10	3	8	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
Psychology	...	53	...	35	...	37	...	37	...	37	...	37	...	37	...	37	...	37	...	37	...	37
No pattern	...	...	...	2	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1
B.Sc.—Pattern																						
Chemistry	35	66	33	25	14	28	14	28	14	28	14	28	14	28	14	28	14	28	14	28	14	28
Mathematics	7	12	8	9	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Physics	10	40	10	11	8	4	8	4	8	4	8	4	8	4	8	4	8	4	8	4	8	4
Geology	41	37	37	16	31	40	31	40	31	40	31	40	31	40	31	40	31	40	31	40	31	40
Botany	1	4	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Entomology	...	1	...	...	2	...	2	...	2	...	2	...	2	...	2	...	2	...	2	...	2	...
Zoology	46	61	51	50	24	27	24	27	24	27	24	27	24	27	24	27	24	27	24	27	24	27
Special B.Sc. Course	18	6	9	13	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5
Experimental Psychology	14	16	7	9	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3
Geography	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
General Science	6	19	11	21	3	19	3	19	3	19	3	19	3	19	3	19	3	19	3	19	3	19
No pattern	1	1	...	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...
Engineering																						
Civil	64	39	131	119	60	74	60	74	53	59	74	53	59	74	53	59	74	53	59	74	53	59
Chemical	65	39	66	62	40	51	40	51	47	34	51	47	34	51	47	34	51	47	34	51	47	34
Electrical	63	52	50	97	47	62	47	62	27	37	62	27	37	62	27	37	62	27	37	62	27	37
Mining	3	4	3	9	8	4	8	4	10	7	8	10	7	8	10	7	8	10	7	8	10	7
Petroleum	27	11	32	24	24	15	24	15	15	22	24	15	22	24	15	22	24	15	22	24	15	22
Engineering Physics	7	6	1	2	7	12	7	12	7	6	12	7	6	12	7	6	12	7	6	12	7	6
Engineering Geology	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Metallurgical	2	1	3	5	7	3	7	3	1	7	3	1	7	3	1	7	3	1	7	3	1	7
Mechanical	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Not specified	202	268	5	33	...	19	...	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Honors																						
Biochemistry	1	3	4	2	1	5	1	5	...	...	5	...	...	...	...	...	...	...	...	...	...	...
Botany	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Chemistry	17	20	5	12	6	4	8	5	...	36	41
Classics	...	...	...	...	2	2	...	...	...	...	2
Conservation Biology	...	...	1	...	...	...	1	2	...	4	2
English	4	1	3	1	1	2	4	1	...	12	5
Geology	9	9	5	11	7	8	1	6	...	22	34
History	2	4	...	5	3	1	1	2	...	6	12
Applied Mathematics	...	...	1	...	...	...	...	...	...	...	1
Mathematics	7	12	5	7	5	4	...	2	...	17	25
Modern Languages	1	5	9	1	5	9	3	5	...	18	20
Philosophy	...	5	...	7	...	1	1	8	...	1	21
Psychology	1	...	1	2	1	2	4	1	...	7	5
Physics	8	21	8	11	7	7	3	5	...	26	44
Economics	1	2	2	2	1	2	2	1	...	6	7
Business Administration	1	...	...	...	...	...	...	...	...	1	...
Zoology	2	3	6	...	2	2	...	1	...	10	6
Physics and Geology	2	1	3	2	2	1	...	...	...	3	4
Physiology	...	1	1	...	2	...	...	...	...	3	1
Political Science	1	...	...	...	1	...	1	...	...	3	1

Graduate Studies

Civil Engineering	...	...	...	...	...	...	...	...	...	...	32
Chemical and Petroleum Engineering	...	...	...	...	...	...	...	...	...	...	23
Electrical Engineering	...	...	...	...	...	...	...	...	...	...	5
Biochemistry	...	...	...	...	...	...	...	...	...	...	4
Botany	...	...	...	...	...	...	...	...	...	...	1
Chemistry	...	...	...	...	...	...	...	...	...	...	40
Classics	...	...	...	...	...	...	...	...	...	...	2
English	...	...	...	...	...	...	...	...	...	...	15
Entomology	...	...	...	...	...	...	...	...	...	...	6
Geology	...	...	...	...	...	...	...	...	...	...	21
History	...	...	...	...	...	...	...	...	...	...	11
Mathematics	...	...	...	...	...	...	...	...	...	...	4
Modern Languages	...	...	...	...	...	...	...	...	...	...	4
Philosophy and Psychology	...	...	...	...	...	...	...	...	...	...	23
Physics	...	...	...	...	...	...	...	...	...	...	17
Political Economy	...	...	...	...	...	...	...	...	...	...	8
Zoology	...	...	...	...	...	...	...	...	...	...	3
Physiology and Pharmacology	...	...	...	...	...	...	...	...	...	...	2
Anatomy	...	...	...	...	...	...	...	...	...	...	1
Animal Science	...	...	...	...	...	...	...	...	...	...	5
Bacteriology	...	...	...	...	...	...	...	...	...	...	3
Dairying	...	...	...	...	...	...	...	...	...	...	2
Education	...	...	...	...	...	...	...	...	...	...	72
Medicine and Clinical Med.	...	...	...	...	...	...	...	...	...	...	13
Mining and Metallurgy	...	...	...	...	...	...	...	...	...	...	6
Paediatrics	...	...	...	...	...	...	...	...	...	...	2
Pharmacy	...	...	...	...	...	...	...	...	...	...	1
Plant Science	...	...	...	...	...	...	...	...	...	...	11
Soil Mechanics	...	...	...	...	...	...	...	...	...	...	1
Soil Science	...	...	...	...	...	...	...	...	...	...	7
Surgery and Clinical Surgery	...	...	...	...	...	...	...	...	...	...	13
Not specified	...	...	...	...	...	...	...	...	...	...	2

Table XIX—Degrees and Diplomas Awarded

DEGREES AWARDED				DIPLOMAS AWARDED			
	Fall	Spring	Total		Fall	Spring	Total
	1958	1959			1958	1959	
ARTS & SCIENCE				Licentiate in Music ..	1	...	1
B.A.	30	125	164	Associate in Music ...	3	2	5
B.Sc.	27	87	114	Diploma in Art	...	2	2
			278				
AGRICULTURE							
B.Sc.	2	31	33				
COMMERCE							
B. Com.	2	35	37				
DENTISTRY							
D.D.S.	...	26	26				
EDUCATION							
B.Ed.	136	84	220	Senior	217	*	217
B.Ed. in Industrial				Junior Elementary ...	59	*	59
Arts	2	2	4	Junior High School ..	122	*	122
			224				398
ENGINEERING							
B.Sc. in Chemical				*Education diplomas are no longer			
Engineering	2	28	30	awarded.			
B.Sc. in Civil							
Engineering	2	56	58				
B.Sc. in Electrical							
Engineering	1	29	30				
B.Sc. in Metallurg-							
ical Engineering ..	...	6	6				
B.Sc. in Mining							
Engineering	...	5	5				
B.Sc. in Petroleum							
Engineering	2	22	24				
B.Sc. in Engineering							
Physics	...	6	6				
			159				
HOUSEHOLD ECONOMICS							
B.Sc. in Household				Nursing	80	19	99
Economics	1	20	21	Teaching and			
B.H.Ec.	...	...	...	Supervision	2	10	12
LAW				Public Health			
LL.B.	...	27	27	Nursing	...	20	20
MEDICINE							131
M.D.	1	49	50				
B.Sc. in Medicine ..	...	...	...				
NURSING							
B.Sc.	...	24	24				
PHARMACY							
B.Sc.	4	32	36				
PHYSICAL EDUCATION							
B.P.E.	1	11	12				
B.Ed. in Physical				Physiotherapy	14	...	14
Education	1	...	1				
			13				
PHYSIOTHERAPY							
	...	...	...				
GRADUATE STUDIES							
M.A.	7	8	15				
M.Sc.	17	23	40				
M.Ed.	9	8	17				
Ph.D.	2	8	10				
B.D. COMMITTEE							
B.D.	...	5	5				
			1015				

Report of Dean C. F. Bentley of the Faculty of Agriculture

A major change in the administration of the Faculty has occurred with Dean McCalla now devoting the whole of his time to the work of the Faculty of Graduate Studies. This is the second time that the Faculty of Agriculture has lost its Dean by promotion within the University, Dr. Robert Newton having been promoted to President in 1942. Dr. C. F. Bentley became Dean of the Faculty of Agriculture after a period of a year and a half as Associate Dean.

Several important changes affecting members of the Faculty's staff have occurred. In August, 1958, Dr. H. R. Thornton retired as head of the Department of Dairying after twenty-nine years of service to the University. He was succeeded by Dr. L. F. L. Clegg who came from the Dairy Research Institute at Reading, England. Dr. Thornton was retained on a part-time basis during the 1958-59 year to assist with the heavy teaching load in the department. Mr. R. H. Knowles spent several months at Michigan State College doing advanced work on landscape architecture and will be devoting a greater proportion of his time to his duties as Superintendent of Grounds. Dr. W. E. Smith obtained the Ph.D. degree from the University of Nebraska. His thesis work indicates that it may be possible to breed commercial tetraploid varieties of barley. Dr. John Unrau returned in September, 1958, after a sabbatical year devoted to research work at Cambridge University and to travel in Europe.

There have been some staff appointments. Dr. W. G. Evans, a toxicologist, joined the Department of Entomology as an assistant professor. He came from the Virginia Polytechnic Institute and has degrees from Cornell University. Dr. J. M. de Man, who obtained the Ph. D. degree from the University of Alberta in May, 1959, has joined the staff of the Department of Dairy Science as an assistant professor. His graduate study has been in that department and involved fundamental studies on the structure of butter. Drs. K. Lesins, J. Kuspira, and G. W. R. Walker, who have been attached to the Department of Plant Science for several years doing research supported by grants to that department have been classified as associate research professors. These men greatly strengthen the department's research program as well as its qualifications to offer advanced training for graduate students.

In the fall of 1958 Dr. A. G. McCalla spent six weeks in Japan on an assignment for the Canadian Wheat Board. He was a member of a two-man team sent to Japan to survey the Japanese market for cereal grains with a view to determining how Canada can win a larger market in that country.

Members of the staff have participated in many scientific meetings, of which several are especially noteworthy. The Tenth International Genetics Congress was held in Montreal and Messrs. Berg, Johnson, Kuspira, Lesins, Unrau, Walker, and Weijer attended. Drs. Clandinin and Robblee participated in the Eleventh World's Poultry Congress, in Mexico City. Dr. Hocking contributed to two entomological meetings at Guelph, Ontario, in November, 1958. Many staff members presented papers to other scientific groups and the Western Regional meetings of the National Soil Survey Committee and the National Soil Fertility Committee were held at the University for the first time.

Academic

In spite of rather small second and third year classes, undergraduate enrollment in the Faculty increased to 107. The increase was largely due to

a first year class of 41—the largest since 1948-49. There were 19 graduate students working towards M.Sc. degrees and 10 on Ph.D. programs. Nine students earned graduate degrees during the year. One of these was the first Ph.D. awarded in the Department of Dairy Science. Several students who have completed M.Sc. programs are proceeding to further graduate study at other institutions.

The program of courses offered in two of the Faculty's departments has been extensively revised. New courses are being offered in Agricultural Engineering and a program of specialization in that department is now available to undergraduate students. The emphasis is on industrial agriculture—application of the techniques and procedures of industry to the problems of agricultural production and the handling of agricultural products. The department is now authorized to offer graduate study in this field. Courses in the Department of Dairy Science have been designated in four categories—dairy science, dairy technology, dairy and food bacteriology, and dairy and food chemistry. Graduate work in the department may be undertaken in any of these areas.

Research

All departments in the Faculty have active programs of research and the number of projects are far too numerous to list here. However, a few highlights from each department may indicate the scope of the work.

The Department of Agricultural Engineering has designed and tested a cellular type granary which promises to be convenient and economical for farm use. A special feature is a metal bracket, designed in the department, which fastens together the panels used in the granary's construction. Work has been undertaken to find a flooring material suitable for unbedded piggeries. The goal is to find or develop a strong resistant flooring material of low heat capacity which, without bedding for insulation, will be comfortable for the animals.

A grant from a commercial company has sponsored a new project in the Department of Animal Science. The investigation being commenced is intended to determine some of the effects of pelleting on the nutritive value of feeds and feedstuffs. Pelleting may cause substantial changes in quality of feeds and it is desirable to know if these changes involve vitamins, amino acids, or other nutritive factors. The Poultry Division of the department has developed a broiler known as U. of A. White which, in provincial and national tests, has shown faster growth rates and more efficient feed conversion than any of the widely advertised broiler crosses. Sufficient U. of A. White breeding stock has been released to hatcherymen of Alberta to enable them to place about 1,500,000 U. of A. White chicks with broiler growers.

Research in the Department of Dairy Science has centered on the crystalline structure of butter. That work, supported by Extra-mural Research Projects funds from the Canada Department of Agriculture, has attracted international attention. The fundamental knowledge which has been obtained promises to enable improvement of the physical qualities of butter made by an improved butter making process. Papers reporting on this work have been published in three languages.

In spite of the disruption entailed in moving to excellent new quarters in the Agriculture and Biological Sciences Building, the Department of Entomology had a year of productive research. Studies of insect flight were

continued and these have received wide publicity in the popular press. A taxonomic study by one member of the department has been published as a 258 page memoir and a bibliography prepared by another member of the department lists some 2,600 references.

Kenhi, a soft white spring wheat variety resistant to leaf and stem rust and agronomically superior to varieties at present grown in Alberta's irrigated areas, has been developed by the Department of Plant Science. Advances in plant breeding techniques and knowledge, to which members of the department have made important contributions, enabled development of this variety after only eight years of work. Findings in the Horticulture Division have helped elucidate the mode of interaction of natural and artificial hormonal compounds and thus of genetic control in plants. Other work in the department has found some promise of spray control of wild oats.

In the Department of Soil Science fundamental work on the constituents of soil organic matter has been commenced. It has already been established that the organic matter in different soil horizons varies considerably in some Great Soil Groups occurring in Alberta and that there are further differences between some of those groups. Soil fertility investigations have revealed that fertilizer nitrogen applied to nitrogen deficient grain crops either increases yield per acre or results in a higher protein grain, depending upon the stage of crop growth when the fertilizer is applied.

Every department has received financial and other assistance from sources other than the University budget. This assistance, equivalent in total to about one quarter of the Faculty's budget, is gratefully acknowledged. This help and the encouragement which it gives research activities enables the departments to make considerably increased contributions to public benefit and scientific advancement. One of the gifts was a quarter section of land which is to be used for research in crop ecology.

Extension

Extension activities continue to take a good deal of time. They may be divided into several categories.

Feeders' Day as usual was the most important extension program, with attendance of approximately 2,000 being a new high. About 250 attended a fall Feeders' Day at Crossfield arranged by the Animal Science Department in co-operation with the Western Stock Growers' Association. Approximately the same number attended the Soil Science Field Day at Breton in July. Staff members gave talks at many short courses and field days sponsored by other organizations in many parts of the province. The Soil Science Department and the Alberta Soil Survey co-operated to put on a short course for personnel of the Alberta Departments of Municipal Affairs and Lands and Forests. Many contributions were made to radio and television programs, several of which were national or regional in coverage.

Extension publications have been numerous. Ten thousand copies of the Feeders' Day bulletin were printed and all but 400 were distributed by the end of the first month. Revised editions of three popular University of Alberta bulletins were printed and many staff members assisted with the preparation of the Alberta Farm Guide, a new publication prepared by federal, provincial, and university personnel. Departments have prepared or contributed to many leaflets and circulars intended to help farm people with practical problems which they encounter.

Service work done by the Faculty has become very heavy in some cases. The Divisions of Horticulture, Plant Pathology, and Crop Ecology of the Department of Plant Science and the Department of Entomology are devoting a substantial portion of their time to answering telephone enquiries or letters, and to the identifying of specimens submitted. New quarters have been occupied by the Agricultural Soil and Feed Testing Laboratory and an increasing number of farmers are utilizing this service.

In concluding this report I wish to express appreciation for the excellent co-operation from all members of the Faculty. I also wish to mention the fine relationship which has existed between Dr. A. G. McCalla and myself during the past year and a half, and to express my deep gratitude to him for the most considerate assistance and guidance which he has given me at all times.

Mr. J. A. Robertson has frequently taken classes for me and I wish to acknowledge his fine and cheerful work in that regard.

Report of Dean D. E. Smith of the Faculty of Arts and Science

1. Registration

The Registrar has presented detailed figures on registration, but I should like to comment on trends of this Faculty. There was an unprecedented increase in the number of students registered in the first year of all programs. The total registration also showed an unusually large increase. There is a steady growth of the Faculty of Arts and Science at the University of Alberta in Calgary; and students in the Evening Credit program continue to increase.

2. Degrees and Diplomas (see table XIX)

3. Progress during the Session

(a) *Administration*: The Council of the Faculty of Arts and Science established an Executive Committee during this session. The Committee consists of four members and two alternates; it will meet monthly during the session, or oftener as the occasion arises. The intention of Council is that the Committee will give careful scrutiny to routine business and present its recommendations in a report, which will be circulated to members before the meetings of Council. Contentious matters will be referred to Council for debate; and items in the report can be debated at the request of any member of Council. Authority to deal with petitions and report to Council was delegated to the Committees. By these methods, the Executive Committee will relieve Council of the pressures of routine business, and save time for debate on policies and contentious issues.

(b) *New Degree Programs*: New Honours programs in Sociology with an approved minor subject, and in Sociology and Psychology, were established during this session. An Honours program leading to the B.A. Geography, and a second program with different emphasis, leading to the B.Sc. with Honours in Geography, were also approved. An inter-disciplinary program in Slavonic and Soviet Studies was established: students will register with the Department of History, Modern Languages or Political Economy, and will concentrate in one subject in the appropriate Department. By choosing options in consultation with an inter-Departmental Committee, the student can obtain training in Slavonic and Soviet Studies, and this fact will be added to his record.

The Honours program in Conservation Biology has been discontinued; students can now obtain Honours programs in Botany or in Zoology which will give similar training.

(c) *Calendar Changes*: There were a number of changes to clarify the description of courses or to modify their content. In addition, a number of new courses were approved:

Biochemistry—Chemistry of the Erythrocyte. *Botany*—Mycology, Special Problems. *Chemistry*—Physical Organic Chemistry, Natural Products, Quantum and Statistical Mechanics, Solution Kinetics, Departmental Research Seminar, Advanced Research Seminar. *Classics*—Tibullus, Propertius, Ovid Amores. *English*—English Drama from the beginnings to 1700, Studies in American Literature. *Geography*—Weather and Climate, Western Canada, U.S.S.R., Geography in Planning, Air Photo Interpretation, Reading and Seminar Course, Mediterranean Lands, Scandinavia, Research in Regional Geography, Research in Physical Geography. *Geology*—Geochemistry, Advanced Mineralogy, Regional Structural Geology, Pleistocene Geology, Field Work in Geomorphology and Glacial Geology, Rock Analysis. *History* — Europe since 1815, The Germanic Peoples, Britain—A Survey of the History of Britain and the Commonwealth, The Far East, Latin America, Special Subject—(1. Chaucer's England, 2. The Reformation, 3. France or New France under the Old Regime, 4. A period in the history of the American West, 5. The transformation of Russia since 1861, 6. The political history of the Canadian West, 7. Other approved special subjects), Medieval Europe, The Age of Louis XIV, The Age of Enlightenment, The French Revolution, Europe 1815-70, Europe since 1870, The West Slavic Peoples since 1800, Russia since 1861, Slavonic and Soviet Studies (an interdepartmental seminar), Medieval Britain, England under the Tudors and Stuarts, Britain in the 19th Century, Canada during the French Regime, Canada 1763-1867, The Canadian West, The Westward Expansion of the United States, Latin America, The Far East, Conference Course. *Household Economics*—Foods and Nutrition. *Mathematics*—Introduction to Behavioural Statistics, Calculus, Analytic Geometry and Linear Algebra, Elementary Mathematics from an Advanced Viewpoint, Introduction to Modern Algebra, Advanced Calculus, Numerical Analysis, Probability Theory and Applications, Selected Topics in Mathematical Statistics. *Modern Languages* — Semantics, Lexicography and Linguistic Geography, Stylistics as applied to French Literature, Chansons de geste and Roman courtois, The Spirit of Humanism in France and England at the beginning of the Renaissance, Rabelais, Ronsard, Montaigne, The French Moralists, Moliere, The 18th Century Novel, Marivaux, Voltaire, Rousseau, Stendhal, Literature and the Plastic Arts from the time of Delacroix and Baudelaire, Franco-German Literary Relations during the Nineteenth Century, Maupassant, The Naturalistic Novel, The Late Nineteenth Century Theatre, Valery, Proust, Spanish Literature of the Golden Age, Spanish Drama and Lyric Poetry from 1850, Practical Study of the Spanish Language, History of Spanish Literature, The Poem of the Cid, Early Spanish Prose, Contemporary Spanish Poetry, Modern Spanish and Latin American Novelists, Special Reading Course in German, Survey of German Literature, Anglo-German Liteerary Relations from the Sixteenth to the Nineteenth Century, Conference Course in German, Second Year Russian (Science Section), Russian Literature of the late Nineteenth and early Twentieth Centuries, Early Eastern Slavonic Literature, Conference Course

in Russian, Soviet Russian Literature, Beginners' Ukrainian, Second Year Ukrainian Authors and Grammar. *Psychology*—General and Industrial Psychology, Behavioural Statistics. *Physics*—Advanced Problems in Geophysical Exploration. *Political Economy* — Western European Economic Development. The Soviet Economy, Business and Government, Seminar in Slavonic and Soviet Studies (an interdepartmental seminar). *Political Science*—International Affairs in the Twentieth Century, Federal and Local Government, Seminar in Soviet Politics, Seminar in Slavonic and Soviet Studies (interdepartmental), Government of Canada. *Sociology*—Cultural Anthropology, Social Science Research Methods, Population and Human Ecology, Social Class in Modern Society, Conference Course in Sociology for Honours and Graduate Students, Seminar in industrial Sociology, Seminar in Social Psychology. *Zoology*—Vertebrate Physiology, Comparative Animal Physiology, Limnology, Comparative Animal Histology and Basic Microtechnique. Some twenty courses were deleted.

(d) *Leaves of Absence*:... Leave of absence was granted to Dr. W. F. Allen, of the Department of Chemistry in Calgary, to do research under the direction of Dr. Gunning on this Campus. Professor H. G. Glyde, of the Division of Painting, Department of Fine Arts, was given leave of absence to study in London and in Italy. The leave of Dr. I. Guttman, of the Department of Mathematics, was extended for one year; and Dr. G. K. Horton of that Department was given leave to do research in Birmingham. Leave was also granted to Professor W. D. Gainer and Professor W. MacKenzie, of the Department of Political Economy; Professor Gainer will be a visiting Professor at the University of Toronto, and Professor MacKenzie has continued his studies at Oxford University.

(e) *Staff Changes*: The Faculty was saddened by the deaths of several members of its staff during this session. Dr. E. Mueller of the German Division, Department of Modern Languages, and Dr. E. H. Gowan of the Department of Physics, died during the summer. Dr. S. M. Strong of the Sociology Division died after a few months of his first year on our staff. Dr. R. B. Miller, Head of the Department of Zoology, died during the winter.

The Faculty also lost the services of Dr. J. E. Moore, of the Department of Zoology, who was placed on sick leave on commitment to hospital.

Dr. R. W. Collins, of the Department of History, retired in September; he was replaced as Head of the Department by Professor L. G. Thomas of that Department. Professor J. M. Robson of the Department of English, Dr. S. S. Gupta of the Department of Mathematics, and Dr. V. E. Graham of the Department of Modern Languages in Calgary, resigned during the year.

Mr. J. G. Packer joined the Department of Botany. The Department of Chemistry experienced a great increase with the appointment of Dr. F. C. Adam, Dr. W. A. Ayer, Dr. D. Darwish, Dr. G. R. Freeman and Dr. Paul Kébarle; Dr. D. A. Armstrong was also appointed to the University of Alberta in Calgary. Dr. J. P. Cutts, Mr. R. D. McMaster and Mr. E. J. Rose joined the English Department. The Music Division of the Department of Fine Arts added Mr. T. Rolston to its strength. Dr. F. A. Campbell and Dr. H. Baadsgaard joined the Department of Geology. Dr. P. Brock and Dr. R. H. McNeal were added to the Department of History. The Department of Mathematics was substantially increased by the appointment of Dr. T. V. Narayana, Dr. R. O. A. Robinson, Mr. J. McNamee, Dr. W. J. Bruce and Mr. W. Israel; and Mr. A. S. B.

Holland was appointed to the Calgary staff. The Department of Modern Languages appointed Mr. R. G. Motut, Mr. B. Plaskacz and Mr. H. Chanal; and Mlle. G. S. E. Colleville in Calgary. Dr. S. M. Strong and Dr. C. Uhl joined the Department of Philosophy and Psychology. The Department of Physics also enjoyed a large increase through the appointment of Dr. F. D. Manchester, Dr. J. T. Sample, Dr. F. Terentiuk (Calgary), Dr. K. Vozoff and Dr. F. L. Weichman. In the Department of Political Economy, Dr. G. K. Goundrey and Mr. W. Dawson were appointed. In the Department of Zoology, Dr. C. P. Hickman, Dr. V. Lewin and Mr. B. A. Boag joined the staff.

4. Departmental Reports

Botany

The Department has been established in new quarters on the fourth floor of the new wing of the Biological Science Building. New equipment was obtained and installed for all areas of the Department's activities. The new facilities were on display at the official opening of the new building during Jubilee week, October 26 to November 1.

Gifts of botanical materials were received during the year, outstanding among which are a five-foot-wide section of a Douglas Fir tree from British Columbia showing six hundred growth rings, and a large collection of pressed seaweeds from California.

Although the Department is much better equipped than in previous years, greatly increased enrolment, especially in elementary classes, placed heavy strain on space, facilities and staff available for teaching. This, to some extent, increased the difficulty of the reorganization of these elementary courses which is in progress.

Despite the disturbance occasioned by removal to new quarters, the research program of the Department continued to increase in volume and output. Five papers were published by the Department members during the period reviewed. National Research Council grants in aid of research were awarded to Drs. Brodie, Cormack and Keeping (Mrs. E. S.) Grants from the General Research Fund of the University were awarded to Drs. Brodie and Whyte and to Mr. J. Packer.

Dr. E. Silver Keeping (Honorary Research Associate) completed a project dealing with the ecology of the fungus *Endogone* and its relation with rodents and with roots. She continued her study of the morphology and behavior of fungal nuclei in collaboration with the Department of Plant Science. Dr. Brodie continued research dealing with the genetics of sexuality in Bird's Nest Fungi and began the writing of a book dealing with these researches. Dr. Cormack made progress with an investigation of the action of certain chemicals, especially disodium versenate, upon the development of seedling roots. Dr. Lorene Kennedy investigated wood-rotting fungi (the Dacrymycetaceae) with the objective of revising other genera and she completed preparation of a monograph of the genus *Dacrymyces*, a work now in press.

Certain projects consisting largely of field work were carried on by Department members. Dr. Whyte experimented during the summer with the effect of cold treatment on early fruiting of tomatoes.

The introduction of plants of potential horticultural value in Alberta continued as an important part of the Department's activity. Under Dr. Whyte's direction seed exchange was carried on with sixty-two Botanical Gardens. In 1958-59, 2200 packets of seeds and plant material were brought

in for testing and 590 packets sent out on exchange. The experimental plots contained over 2400 plants under observation, representing some 68 genera. Most of this material came from climates approximating that of Edmonton or those having more severe winters. Building expansion on the Edmonton campus necessitates moving this experimental plant material temporarily. It is hoped that a permanent Botanical Garden and Arboretum may eventually be available for this work.

Study of the taxonomy of the flowering plants of Alberta was begun by Mr. John Packer who spent most of the summer in the south-eastern Rockies collecting for the Herbarium and collecting material for cytotaxonomic work. This resulted in the addition of about 500 sheets to the Herbarium and yielded material contributing to studies of cytotaxonomic problems.

Among professional activities in which staff members participated may be mentioned: Meetings of the Royal Society of Canada in Edmonton (June) at which papers were presented by Drs. Kennedy, Cormack and Brodie; meetings of the Western Canadian Society of Horticulture (Winnipeg, February) at which Dr. Whyte presented a short paper; Annual Conference on Plant Physiology (Saskatoon, October) to which Dr. Cormack contributed papers; Forest Ranger School at Kananaskis where Dr. Cormack lectured.

Dr. Brodie presented papers to the Philosophical Society and the Science Association on the campus during the second term and contributed six radio talks to University Radio programs. He served also a Convenor of the Science Series of Radio Broadcasts.

A number of exhibits were provided by the Department, including exhibits at Christmas and for Varsity Guest Weekend. In addition, special exhibits were arranged in hall show cases in the new wing of the Biological Science Building, including fossil plants and other plants of special interest to students and the general public, such as Orchids, lichens, fungi, etc.

Mr. Prince on the Calgary campus continued his work on the lichens of Alberta. Plans for the botanical laboratories which will be part of the new construction at Calgary were developed.

Chemistry

During the present report year substantial progress has been made; the physical facilities of our Department have been improved; there have been expansions in our staff, in our graduate student body and in the number of students beginning the Honors program in Chemistry.

Research activity has taken a dramatic leap forward. A large number of new fundamental investigations have been initiated by the staff working with their graduate students, in the various fields of organic, inorganic, physical and analytical chemistry. The Department is now finding it easier to attract creative scientists to its staff and to interest promising graduate students in taking advanced degrees here.

At the present time there are forty graduate students working for advanced degrees in the Department. Of these twenty-seven are proceeding on a doctoral program, ten are M.Sc. students and three are provisional graduate students.

The first Ph.D. degree in Chemistry from this University will be granted at the Spring Convocation. Two students are now in the third stage of their doctoral programs and should complete their work in early 1960. About half

of the remaining doctoral students are preparing for their comprehensive examination which terminates the second stage of their program.

The Department now has its mass spectrometry laboratory in operation. Research on the detection of free radicals by mass spectrometric methods is proceeding under Dr. Kebarle's direction.

Through an NRC grant of \$37,500, the Department is purchasing a Metropolitan Vickers MS-2 mass spectrometer for Dr. Gunning's research program on isotope separation by photochemical methods. The new mass spectrometer will also be available for other members of the Department.

The Department is rapidly developing a first-class glass blowing shop for the fabrication of research and undergraduate equipment in pyrex and quartz. The Spectrophotometry laboratory is well equipped now for studies in both ultraviolet and infrared spectrophotometry. A Cary, Model 14, recording ultraviolet spectrophotometer is used to determine absorption spectra in the ultraviolet and visible regions. For the infrared region, two instruments are in operation: The Perkin-Elmer, Model 21, recording spectrophotometer, and a grating instrument for high-resolution studies.

The Department has developed considerably its research facilities in Gas-liquid Partition Chromatography: an important new method for analysis. Dr. Walter H. Harris has an active research program in this field. The Department has purchased a Burrell Kromotog instrument for his work. In addition, a number of other instruments for this type of analysis are being constructed for research in photochemistry, mass spectrometry and radiation chemistry.

Since a great deal of research in the Department is conducted in high-vacuum systems, a great deal of liquid nitrogen is used as a refrigerant, for the condensation of gaseous compounds. A Phillips liquid nitrogen generator has been purchased for the Department, which will make available approximately 100 liters of liquid nitrogen per day.

Both the undergraduates and graduate laboratories consume a great deal of crushed ice. A new crushed ice machine has been purchased which manufactures and stores 500 pounds of ice per day.

Through a grant from the Trans Mountain Oil Pipe Line Company, a High Energy Radiation Laboratory has been set up under the direction of Dr. Gordon R. Freeman of our staff. Polonium alpha sources are being used to study the kinetics of decomposition of compounds initiated by alpha particles.

At Calgary, Dr. Armstrong is developing research on the radiation chemistry of gases. Dr. Adam is developing a laboratory for studies in electron-spin resonance of free radicals.

The following research is in progress in Edmonton:

Willard F. Allen: An Investigation of the Metastable Mercury Atom Reactions.

William A. Ayer: Elucidation of the Structure of Lycopodium Alkaloids and Synthesis of Diterpene.

Robert K. Brown: (a) Chemistry of Indoles, (b) Preparation of Sugar Mercaptans, (c) Aromatic Reactions, (d) Monomeric and Polymeric Ester-amides.

Robert J. Crawford: The Reduction of Alkynes and the Mechanism of Elimination Reactions.

David Darwish: The Rearrangement of Esters During Ionic Cleavage.

Stuart G. Davis: Isotope Effects on Reaction Rates.

H. Brian Dunford: Active Nitrogen Reactions.

Gordon R. Freeman: Radiolysis of Cycloparaffins.

Harry E. Gunning: (a) The Photochemistry of Isotope Separation, (b) Endothermic Photochemical Synthesis, (c) The Decomposition of Free Radicals

Walter E. Harris: (a) Analytical Studies in Gas-Liquid Chromatography

Paul Kebarle: Mass Spectrometric Determination of Free Radical Reactions.

Robert N. O'Brien: Solution Chemistry around the Working Electrode.

R. B. Sandin: (a) Study of Substituted Ethylenes, (b) Trifluoroacetic Acid to Generate Carbonium Ions.

William J. Wallace: (a) The Study of Complex Ions, (b) The Preparation of Anhydrous Metal Halides.

The following research is in progress at Calgary:

Frank Adam: Design and Construction of an Electron-Spin Resonance Spectrometer for the Study of Free Radicals.

David A. Armstrong: The Radiation-Induced Addition of Halogen Halides to Olefins.

Robert K. Brown presented a paper on the "Reactivity of Cellulose" at the Fourth Regional Conference of the C.I.C. at Winnipeg, September 4-6, 1958. Robert J. Crawford read two papers; "The Mechanism of Chromium (II) Reduction of Alkynes" was presented at the Symposium on Organic Chemistry, C.I.C. Ottawa, December 1958; and "The Ultraviolet Spectra of Some Methyl-substituted Anthraquinones," will be given at the National Meeting of the C.I.C. in Halifax, May, 1959. H. Brian Dunford's paper on "The Reaction of Active Nitrogen with Hydrogen Bromide" was presented at the National Meeting of the C.I.C., Halifax, May, 1959.

Harry E. Gunning, as Tour Speaker for the C.I.C., gave lectures on "The Photochemical Separation of Mercury Isotopes," at Calgary on October 20, at Ralston on October 21, at Regina on October 22, and at Saskatoon on October 24, 1958. He presented a paper on "The Reactions of Photoexcited Mercury Isotopes," before the Science Association on November 27, 1958, and a paper titled, "The Folk-tale Motif, a Tracer Technique in the Stream of Culture," to the Philosophical Society on February 11, 1958.

Another paper on " $\text{Hg}^{206}({}^3\text{P}_1)$ Atoms with Hydrogen Chloride," was presented by Dr. Gunning at Western Regional Conference of the C.I.C. Winnipeg, September, 1958. He read a paper on "The Reactions of $\text{Hg}^{206}({}^3\text{P}_1)$ Atoms, Photoexcited in Natural Mercury Vapor, with Hydrogen Chloride," at the 135th meeting of the American Chemical Society, Boston, April 1959. He presented two papers at the National Meeting of the C.I.C., Halifax, May, 1958: "Photochemical Separation of Mercury Isotopes, VI: The Reactions of $\text{Hg}^{1986}({}^3\text{P}_1)$ Atoms with Hydrogen Chloride," and "Photochemical Separation of Mercury Isotopes VII: The Reaction of Vinyl Chloride with $\text{Hg}^{206}({}^3\text{P}_1)$ Atoms in Natural Mercury Vapor."

Walter H. Harris presented three papers at the Second Alberta Gas Chromatography Symposium, Edmonton, February, 1959: "Gas-Liquid Chromatography," "The Prediction of Retention Volumes in Programmed-Temperature Gas Chromatography," and "Selective Reactivity in Gas-Liquid Chromatography."

Paul Kebarle presented at the Seventh Annual Meeting on Mass Spectrometry, Los Angeles, May, 1959, a paper on "The Ionization Potentials of Substituted Benzene Radicals."

Robert J. O'Brien read a paper on "Interference Methods in Electro-deposition" at a Symposium on Charge-Transfer Processes sponsored by the C.I.C., Ottawa, September, 1958.

Classics

Summer Session courses were given by Miss Marie Spence, an Honours Graduate in Classics of this University who is now on the staff of McGill University, and by Dr. E. C. May of the staff of this Department.

The regular courses of the Department were given in the winter session by the members of the Department. In addition, two M.A. students have been registered in Graduate courses. One of these receives her degree at the Spring Convocation.

Dr. W. H. Johns, formerly Professor in this Department, has been selected as President of the University of Alberta.

English

Public addresses were given by the following members of the Department:

J. T. Jones: Kiwanis Club, Lethbridge, "Lethbridge and the Junior College," January 27, 1959. The Mathesis Club, Lethbridge, "Bernard Shaw," January 27, 1959. St. David's Society, Edmonton, "Pauline Johnson," February 28, 1959.

H. Kreisel: University Women's Fiction Club, "The Modern Novel," October, 1958.

R. D. McMaster: Dickens Fellowship, Edmonton, "Dickens' Obsession with Fairy-tale Literature," February 7, 1959.

E. W. Mandel: Philosophical Society, "Poetry and Madness," November 12, 1958.

Messrs. Godfrey and Kreisel arranged the series, "Men and Letters," for CKUA, and talks were given in this series by Professors Baldwin, Cutts, Godfrey, Kreisel, McMaster and Sowton. Talks and book reviews were given on the CBC by Professor Godfrey and Professor Kreisel. R. G. Baldwin and H. Kreisel took part in a panel discussion on "Errors in Freshman Composition" at an A.T.A. Convention, Victoria Composite High School, February, 1959.

A. T. Elder was Chairman of the A.T.S.U.A. from May, 1958 to May, 1959, a post whose excessive demands of time and energy he met without relinquishing his departmental activities. A. T. Elder judged the annual Alberta Poetry Contest for the Edmonton branch of the Canadian Authors Association.

H. Kreisel and J. T. Jones again acted as adjudicators for the Canada Council in awarding grants to writers. H. Kreisel was Chairman of the Philosophical Society, and E. W. Mandel was Secretary of the Humanities Association of Canada (Edmonton Branch).

R. G. Baldwin will judge literary activities at the Y.M.C.A. "Children's Fair," May, 1959.

Fine Arts

The three Divisions of the Fine Arts Departments moved during this year. The Drama Division took up temporary quarters in the Faculty of Education

Building and the Music Division, along with Radio Service, moved to Rooms 311, 315, 319 and 322 in the Arts Building. The Painting Division also took over rooms in this building formerly occupied by the Geology Department on the third floor.

Painting Division

A Total of 210 students were enrolled in the 19 art courses which were offered. These courses include those special students who comply with registration requirements and are carefully selected. Their work has shown gratifying development.

Evening Credit courses in art history and appreciation were given at Vegreville by Mrs. Yates, and at Holden by Mr. Taylor, with a total enrollment of 72.

The approximate enrollment in non-credit art courses through the Department of Extension evening classes division, was 209. Mr. D. Barry, assisted by Miss Joan Byrne, one of our Diploma in Art graduates, conducted six evening courses. These proved so popular that another series of art courses has been commenced for the spring season, extending through April, May and June.

The pottery classes continued under the very capable hands of Mrs. S. Laubenthal, with an enrollment of 21. Nearly this many applicants again were turned away from this class for lack of accommodation.

The 1957-58 Community Art Program will be seen in the report from the Department of Extension. There was an enrollment of 487.

Exhibitions were held in the Rutherford Gallery, on the second floor of the Arts Building, the first floor of the Education Building, and along the corridors of the new Art quarters on the third floor of the Arts Building.

These exhibitions included:

8 travelling exhibitions, national and international, sponsored by the National Gallery of Canada

1 travelling Western Circuit exhibition

2 students' exhibitions, one of which went on tour to five city schools

1 staff exhibition

1 one-man show by N. Yates

1 one-man show by J. B. Taylor

1 one-man show by Gordon Sinclair

1 student exhibition for Guest Weekend, in 132 Arts Building

Concerts sponsored jointly with the Edmonton Women's Musical Club:

Doreen Stanton, pianist; Rolande Garnier, Winnipeg, soprano, and Edward Lincoln, accompanist.

Professor Glyde received a Canada Council Senior Travelling Fellowship for study in London and Rome. He exhibited again in the Royal Canadian Academy. During his absence, Mr. D. Barry and Mr. M. W. MacDonald were appointed on temporary staff, and have done excellent work.

Mr. Taylor exhibited with the Royal Canadian Academy, and the Canadian Society of Painters in Water Color. Mr. Yates exhibited in the National Council of Jewish Women's Annual Exhibition, Ottawa.

Mr. Taylor gave lecture-demonstrations to art clubs in ten schools, and lectures to two outside clubs.

Mr. Yates was in charge of planning and executing, with the senior art students, the decoration scheme of the Homecoming Ball for Guest Weekend. He lectured on Theatre Design in Red Deer to the Annual Drama Director's Conference. He also designed the costumes and stage settings for the very successful production of "The Lark", an Alumni Association production.

Both Mr. Yates and Mr. Taylor lent considerable assistance to the City Teachers' Art Workshop formed this year by Mr. M. W. MacDonald. This extended over a period of six weeks. Staff members continue to co-operate with the Junior Hospital League in lending their paintings for their Art Rental project, which is proving very successful.

Music Division

The total enrollment was 62 students.

The new Bachelor of Music program begun this year saw five students enrolled. Publicity has been given throughout the Province to this course and there is much interest in it.

All students in the Music Division took part in the Annual Christmas Concert in December, presenting a group of unaccompanied carols and joining with the University Singers in Bach's Christmas Sequence.

Assistant Professor Rolston, who joined the Music staff in September, has made a notable contribution to the musical life of Edmonton through his fine work as concert master of the Edmonton Symphony Orchestra.

Three concerts were given by the Mixed Chorus in Convocation Hall, in January, and these were followed by out-of-town concerts in Calgary, Leduc, Lacombe and Lloydminster. Carol singing in the University Hospitals, Varsity Guest Weekend and a CBC concert (for which they received praise from the Winnipeg program convener), rounded out the first part of the season.

On April 29th, the Mixed Chorus plus a string orchestra of professionals and students, began a tour of southern Alberta, beginning with Tofield, Ponoka, Champion, Nanton, Claresholm, Pincher Creek, Blairmore, Lethbridge, Cardston, Taber and Vauxhall. The chorus and orchestra were the only groups featured in the Cultural Activities Branch 1959 'Maytime in Alberta'.

The activities of the University Symphony began at the Annual Christmas Concert, followed by two formal concerts in Convocation Hall in February, and concluding with a joint Chorus and Orchestral Concert at Varsity Guest weekend.

Assistant Professor Greene is to be congratulated for the excellent program in extension music this year. The report of this activity will be seen in the Department of Extension report.

Drama Division and Studio Theatre

The total enrolment in this Division was 63. In addition, the drama section of Ed. 280S was given by Mr. Bueckert with an enrolment of 12.

Student Productions of the Studio Theatre were:

Lilliom by Molnar, a student production with members of the drama classes taking part, directed by Mr. Peacock; and an evening of four one-act plays presented in February by the classes in directing and acting.

There were two Adult Productions:

The Lark by Jean Anouilh, presented by the Alumni Players, was a major production with students and alumni taking part. This was entered in the Provincial Drama Festival as well. It was directed by Mr. Peacock.

Candida by George Bernard Shaw, the second major production, was directed by Mr. Bueckert.

Two two-day provincial theatre workshops held in Red Deer, were organized by the Cultural Activities Branch, with Mr. Peacock and Mr. Bueckert handling the stagecraft and directing sections.

Mr. Peacock was reappointed a Governor of the Dominion Drama Festival for a three-year term, and was appointed a University editor of *Players Magazine* for a two-year term.

Geography

Student enrolment in Geography continued to increase. On the Edmonton campus 460 students were registered in Geography courses during the 1958-59 academic year (including 49 in the E.C.P.) 44 students were registered in Geography 1 at the Calgary campus during 1958-59.

During the fall of 1959 the Department moved into new quarters on the third floor of the Arts Building, into space vacated by the Department of Botany and Department of Geology. This was the first time that the Department has been housed together and it has made a great improvement in our facilities. Students as well as staff have commented most favourably on the new quarters.

Dr. Wonders received a \$1500 research grant from the Canadian Social Science Research Council to cover the expenses involved in his study of settlement in the Mackenzie Valley area. To this end, he spent nine weeks on library research in Ottawa over the summer, visited Saskatchewan Government officials in Regina in the fall, and visited Fort Simpson, N.W.T. over an emergency winter road in the late winter. Dr. Wonders also has been preparing a child's atlas for Western Canada.

Dr. R. Common continued his research on the regional geography of Central Macedonia, and during the summer made a field study of the glacial geology and geomorphology of Southeastern Alberta for the Research Council of Alberta.

Dr. A. H. Laycock's research on "Water Surplus and Deficiency Patterns in the Prairies" continues to be supported financially by the Prairie Provinces Water Board, with additional assistance from the U. of A. Research Fund.

R. Common spoke on "Geography as a High School Subject," at the Edmonton and Jasper Place Teachers Convention, Edmonton, February 1959. He also read a paper, "Some Aspects of the Geomorphology of South-eastern Alberta," at the Canadian Association of Geographers meeting, Saskatoon, May, 1959.

A. H. Laycock presented a paper, "Soil Surveying in Mountain Watersheds: The Problem and One Solution," to the Association of American Geographers Convention, Santa Monica, California, August, 1958. He also spoke on "The Water Resources of Alberta," at the Alberta Resources Conference, Edmonton, January, 1959, and read a paper, "Local Water Supplies in the Prairies," at the Canadian Association of Geographers' meeting, Saskatoon, May, 1959.

Dr. Wonders gave three radio addresses: "Settlement in the Mackenzie Valley Area," on CBC Prairie Area, 7:30 p.m., November 18, 1958; "Sibelius," in the series *My Saturday Evening Concert*, CKUA, Edmonton, 8-9 p.m., December 6, 1958; and "Book Reviews," (E. J. Hanson: *Dynamic Decade*; K. Liddell: *This is British Columbia*), CKUA, Edmonton, 7:45 p.m., December 18, 1958.

R. Common lectured to R.U.S. during the year. A. H. Laycock offered a non-credit course on "The Land and Wealth of Alberta," for the Department of Extension.

Dr. Wonders was the official delegate of the Canadian Association of Geographers at the annual meeting of the Association of American Geographers in Santa Monica, California, August, 1958. He also was a registered delegate at the annual Prospectors and Developers Convention in Edmonton, February, 1959, and at the National Northern Development Conference, Edmonton, September, 1958. He participated in the air tour to the Yukon and Alaska following the latter, through the provision of a special grant by the University.

Dr. Laycock attended the Air Photo Interpretation Course at the U. of A., February 9 to 14, 1959.

Dr. Wonders participated in "Geography in the School," a discussion with Edmonton Social Studies teachers, at Victoria Composite High School, Edmonton, January 26, 1959. He also spoke on "The Full Development of the North," as a panel member at the annual meeting of the Junior Hospital League, Edmonton, February 10, 1959. He spoke on "The Fort Simpson Winter Road," to the West Side Rotary, Edmonton, April 6, 1959.

Geology

The Department of Geology moved into new quarters in the Agriculture and Biological Science Building in September, 1958; the new facilities are believed to constitute the best physical plant available to any geological department in Canada.

Despite the difficulties associated with transplanting objects as large as dinosaurs and as small as microfossils, the department has been able to carry on its program of teaching and research. Eighteen M.Sc. and two Ph.D. students are presently registered in the graduate school in Geology, together with 135 undergraduate and special students in Geology pattern and Honors courses. Our graduate students hold International Nickel teaching and research fellowships, an Imperial Oil graduate fellowship, the Shell Oil graduate fellowship, and the Pan American graduate fellowship; representative of the substantial contribution that the mining and petroleum industries make to the support of the University's graduate program.

Twelve papers have been published in geological journals by members of the Department during the 1958-59 academic year, a reflection of the Department's contributions to research. These papers run a geological gamut in time from Precambrian to Pleistocene, in subject from paleontology to permafrost. In association with the Department of Physics the University now has facilities for complete potassium-argon isotope analysis of rocks and minerals over an age range from 20 to more than 2000 million years, or 99% of geological time. The remaining 1% on the time scale is covered through a co-operative program with the University of Saskatchewan, where facilities for radio-carbon dating are available.

History

The enrolment in the sixteen courses offered by the Department in 1958-59 was approximately 775. Three courses were offered in the Evening Division and six courses at the Summer Session of 1958.

Dr. R. W. Collins retired to become Professor Emeritus of History, and was succeeded as Head of the Department by Dr. L. G. Thomas. Dr. F. D.

Blackley, in addition to his duties in the Department, continues to serve as Secretary of the Faculty of Arts and Science.

The course offerings of the Department have been revised and extended to provide for a revised and developed honors and graduate program.

Four members of the Department received Canada Council grants in support of research—Dr. Eccles to continue work on the two volumes commissioned last year in the Canadian Universities Series, and the Frontier History Series; Dr. Farnham to continue his research for a study of Grenville Dodge; Dr. Brock for travel in Europe in connection with his studies in Polish history and Dr. Self, at Calgary, to attend the Institute of Historical Studies conducted at Kingston, Ontario. Dr. McNeal is preparing a bibliography of the works of Stalin.

Members of the Department participated in the meetings of the Learned Societies in Edmonton in June, 1958. Dr. Thomas was elected for a second term to the Council of the Canadian Historical Association. Dr. McNeal and Dr. Thomas attended the meetings of the American Historical Association in Washington, D.C., in December, 1958, and Dr. Eccles and Dr. Farnham the meetings of the Mississippi Valley Historical Association in Denver in April, 1959. Dr. McNeal attended the first Far Western Slavic Conference at San Francisco in April, 1959, to read a paper "Stalin as a Nationalist." Dr. Farnham accepted an invitation to attend a seminar on the relations of Canada and the United States arranged by the Canadian Studies Program at the University of Rochester, New York, in October, 1958.

Mathematics

The Departmental staff increased to twenty-one full-time and four part-time instructors, including two full-time instructors in Calgary.

Miss Z. M. Hyduk, a Lecturer in the Department, was awarded the M.Sc. degree for a thesis on "Asymptotic Expansions (the method of Darboux)" under the direction of Dr. Wyman. Five graduate students are registered with the Department, three in statistics and two in applied mathematics.

During the summer of 1958, Dr. L. Moser and Dr. S. S. Gupta attended the Summer Research Institute in Mathematics at Queen's University, Kingston. Dr. Gupta worked on statistical problems connected with ranking procedures and Dr. Moser on various problems in number theory and oriented graphs.

Dr. A. P. Guinand, Dr. H. F. J. Lowig and Dr. I. N. Baker attended the International Mathematical Congress in Edinburgh, Scotland. Dr. Baker and Dr. Lowig read papers at the Congress.

Dr. Wyman presented a paper to the meeting of the Royal Society of Canada in June 1958. A session of Section III, devoted to mathematical papers, was held in the Department. He also gave a paper on "The Asymptotic Behavior of the Laurent Coefficients" at a symposium on Asymptotic Expansions held in California. On the way he stopped off at Vancouver to give a talk to the mathematics department there.

Dr. Moser attended a seminar in August 1958 at the AVCO Manufacturing Company, Wilmington, Mass., and spoke on some problems of combinatory analysis. He also gave papers at the American Mathematical Society meetings in Philadelphia, and at a seminar in the Bell Telephone Laboratories, in January, 1959.

Professor Keeping attended the meetings of the American Mathematical Society and the Mathematical Association of America (Pacific Northwest

Division) at Corvallis, Oregon. He also spoke to the Royal Astronomical Society of Canada in Toronto.

Dr. T. V. Narayana attended the Institute of Mathematical Statistics at Pittsburgh in March 1959 and gave a paper on "Sufficient partitions for a class of coin-tossing games."

The mathematics colloquium met regularly during the session, under the guidance of Professor Pounder. A special student seminar was arranged by some members of the Department, including Drs. Baker, Cree and Whitney. For the first time for many years a team was entered for the Putnam Competition.

Dr. Robert E. Gaskell, supervisor of mathematical services for the Boeing Airplane Company in Seattle, came to the campus in January as a Visiting Lecturer sponsored by the Mathematical Association of America. He addressed groups of students and staff as well as the mathematics colloquium, and also spoke to a public meeting of engineers and others interested in the industrial applications of mathematics.

Dr. V. Hlavaty, Professor of Mathematics at the University of Indiana, visited the campus in March and spoke to the Science Association on "The Structure of Space" and to a joint meeting of the mathematics and physics colloquia.

Radio talks over CKUA were given by Professor Keeping on "Weighing the Earth" and on "Opportunities in Modern Mathematics." Professor Moser gave a radio talk on "Triumphs and Pitfalls of Modern Mathematics."

Arrangements were completed for holding a Summer Institute for Modern Mathematics at the time of the University of Alberta Summer School in 1959. Professor R. V. Andree and Professor M. Wyman were appointed as instructors and Professor Keeping as director. About fifty bursaries, valued at \$200 or \$300, were made available by the Canadian Mathematical Congress, the Alberta Department of Education and the University of Alberta, in order to assist high school teachers to attend.

Modern Languages

In June 1958, the Department lost a senior member through the untimely death of Dr. Erich Mueller, Professor of German. An emergency appointment as Sessional Lecturer was made in order to meet a 40% increase in French 2 registrations. In Russian, with the addition of a course for science students, the number of beginning students increased fourfold. Registrations rose again in Scientific German.

Five students were actively engaged in graduate work. Anticipating an increase in the number of graduate students, the Department decided to replace the former Graduate Conference Courses listed in the Calendar by specific course offerings in those fields in which Department members are doing advanced work.

Ukrainian was also authorized as a second Slavonic language for students in certain programs.

Under the direction of Dr. E. Reinhold a special Summer School of Linguistics was held in conjunction with the regular summer session. Visiting professors included Dr. Martin Joos of the University of Wisconsin and Dr. J. P. Vinay of the University of Montreal. The venture was so successful that a second School is planned for 1959.

A modern language laboratory was installed during the summer and was used in the teaching of all four languages.

Three graduands of the class of 1958 received awards from the French Government for study or teaching in France. Miss M. Sporleder, Sessional Lecturer in French, received an award from the Federal Republic of Germany for study in German universities, and Miss M. A. Brine, Sessional Lecturer in French received a Canada Council award for study at the Sorbonne.

Philosophy and Psychology

Two new staff members were added to the Department since the last report. One of these, Dr. Strong, died suddenly on January 24th, 1959. Although he had been a member of the staff only since September 1958 he had already made great contributions to the life of the campus and to the community, and his death is a severe loss to the Department.

During the summer of 1958 Dr. R. L. James was visiting lecturer in Sociology at Wayne State University and Professor T. M. Penelhum was invited to teach a course in Ethics at the University of California, Berkeley. Professor Penelhum attended a Danforth Foundation Seminar at which he read a paper. Professor A. M. Mardiros attended and read a paper at the XIIth International Congress of Philosophy held at Venice in September. Dr. Esther Milner attended and read papers at the American Psychological Association Annual Conference, Washington, D.C., and at the annual meeting of the Society for Social Responsibility in Science, Swarthmore College.

Recently three members of the Department received grants from the Canada Council for study and research during the summer of 1959. Professor T. M. Penelhum received a grant in aid of research (\$700) and other productive scholarship, to enable him to consult works in the library of the University of Chicago. Miss L. Wilson received a partial pre-doctoral scholarship (\$600) to enable her to complete her Ph.D. at the University of Minnesota, and Dr. E. Milner received a short-term-grant (\$350) to enable her to continue a piece of theoretical research in psychology.

Physics

The Department suffered a grievous loss during the year by the death of Dr. E. H. Gowan, who had served the University faithfully for many years. In the Department of Physics the last year has been marked by new additions to the staff, by a further increase in the number of graduate students, by expansion of facilities for experimental research, and by the start of the new building.

The new appointments and the expansion of experimental facilities are closely linked. For some time the Department has had a group of staff working closely together in Theoretical Physics, but experimental research has depended upon the interests of individual staff members. With the increasing staff it is possible to extend the group principle to the experimental research program. Up to date experimental equipment can be very expensive, and the organization of research in groups has made it possible to acquire a few important pieces of basic equipment. Group organization and modern equipment will help to attract graduate students, and should add significantly to the strength of the Departmen. At present here are 15 graduate students regisered in Physics, 7 of whom are Ph.D. candidates.

With some help from a National Research Council grant, a Collins helium liquefier has been purchased and installed, along with the auxiliary equipment necessary to make it a useful research tool. This permits the study of properties

of materials down to temperatures within a few degrees of absolute zero, and is basic to research in Solid State Physics. Group research in this field is being organized by Dr. F. D. Manchester, who is especially interested in the properties of metals at very low temperatures and in the peculiar properties of liquid helium itself, and by Dr. F. L. Weichmann, who is working on photoconductivity in certain types of semiconductors. Closely associated with this group is the work of Dr. H. A. Buckmaster, on the use of magnetic resonance phenomena as a clue to the molecular structure of certain materials. These experiments will be extended into the extreme low temperature range later. A large electromagnet weighing about 1.5 tons, which was installed during the year, will be used both for the magnetic resonance experiments and as auxiliary equipment for extreme low temperature experiments.

The appointment of Dr. J. T. Sample of the staff foreshadows the organization of a group in experimental Nuclear Physics. He has been engaged during the year in preparing the way for the removal of the Defence Research Board's Van de Graaff generator from the Suffield Experimental Station to the University of Alberta.

Research in Geophysics, under Dr. G. D. Garland, is being expanded into a group activity with the appointment during the year of a second geophysicist, Dr. K. Vozoff. They and a graduate student have been working together on a study, both in the field and in laboratory models, of the relation between earth currents and variations in the earth's magnetic field. A start has also been made on the study of heat flow in the earth's crust, by laboratory experiments on the conductivity of rock samples and by temperatures measurements in abandoned oil wells. In addition, Dr. Garland has continued his long term study, by geophysical methods, of the basic substructure underlying Alberta and British Columbia. He also assisted in the organization of expeditions to study some of the large glaciers of Western Canada. In April it was announced that Dr. Garland had been elected a Fellow of the Royal Society of Canada.

Closely associated with the work in Geophysics is that of Dr. J. Lipson on the mass spectrograph. This instrument, most of which was built in the Physics Department, was completed during the year, and is now being used in co-operation with the Geology Department in a program of dating rocks by analysis of the potassium and argon content.

The Theoretical Physics group has continued to be active in research, and to attract graduate students. They have had with them during the year Dr. P. C. Sood as a National Research Council post-doctorate fellow. Dr. A. B. Bhatia has completed some theoretical calculations on the behaviour of sound waves in solids, and has also been working on the manuscript of his book on Ultrasonics and the Physical Properties of Matter. Dr. L. E. H. Trainor, with Drs. Bhatia and Sood, have been working in theoretical nuclear physics, particularly on the properties of close-packed nuclear matter. Dr. H. Schiff and Dr. D. D. Betts have continued their work on the calculation of characteristic constants for various types of crystals. Dr. Betts spent the summer of 1958 at the National Research Council, working on similar problems.

Other members of the staff, not belonging to any group, have been active in their individual fields. Professor D. B. Scott, with a graduate student, has been continuing his work on the evaluation of the biological effects of beta rays, and has continued to act with the University staff as physics consultant on the medical use of radioactive isotopes. Professor K. B.

Newbound has continued with the reduction and organization of experimental results on the precise measurement of optical wave-lengths, and the precise determination of the refractive index of air. He also took charge during Dr. Gowan's illness, and after his death, of the latter's work on solar ultra-violet radiation, a project which has now been turned over to the Dominion Meteorological Service. Dr. J. H. Harrold has compiled more results on the interferometric study of microscopic detail in metallic surfaces. Professor Grayson-Smith has continued to act on the Committee for Hail Research of the Alberta Research Council.

The Physics staff at the University of Alberta in Calgary have also been active in research, and it is hoped that group research can be organized there in two fields: Biophysics with Dr. C. E. Challice and Dr. F. Terentiuk; and Cosmic Rays with Dr. B. G. Wilson. At present Dr. Wilson is dividing his time between the Banff Cosmic Ray Observatory (of the National Research Council) and the Physics Department in Calgary. For the first time in the history of the University a graduate student has been able to work for the M.Sc. in Calgary, in the field of Cosmic Rays. Dr. Challice has been working on the electron microscope examination of biological tissues, and spent the summer of 1958 at the New York State Department of Health Laboratories in Albany, New York.

Finally, along with the expansion of experimental equipment, there has been a significant expansion in the workshop facilities without which a physics laboratory cannot function efficiently. New precision machine-tools have been purchased and installed. Two full-time machinists and an electronics technician were added to the staff during the year, and finally in April a full-time glass-blower. Many projects can now be undertaken, which were previously impossible through lack of time, lack of technical assistance, or lack of equipment.

Political Economy

Two staff members were on leave of absence during the year; the department was also unable to make a new appointment in Economics. As a result, some courses had to be omitted from the 1958-59 academic program. We were fortunate in obtaining the services of several sessional lecturers.

Both Mr. Gainer and Mr. Mackenzie are expected to return before the beginning of the next term. They have made good progress in their research projects.

The Edmonton daytime enrolment in Economics during the academic term 1958-59 was 840; the enrolment in Political Science was 170. In Calgary there were 70 students in Economics, and in Lethbridge 16 students were enrolled in Economics 1.

Three students completed their M.A. requirements during the year.

Mr. Morton Brown, Fourth Year Honors in Political Science, was awarded the Rhodes Scholarship. Mr. Louis Parai, Fourth Year Honors in Economics, was awarded a Woodrow Wilson Fellowship. Mrs. M. L. Huston, a graduate student, received a Pre-Doctoral Award from Canada Council. Mr. Fred Hulmes, a graduate student, will go to England on an I.O.D.E. Scholarship next year. Mr. Glen Alexandrin, another graduate student, has received a scholarship from Clark University. Mr. James Sherbaniuk has been given a fellowship by Queen's University.

E. J. Hanson did a study for the Royal Commission on Education on the

economy of Alberta in relation to occupational changes and on educational finance. He was assisted by Mr. H. Uhlman, a Ph.D. student in Educational Administration. His study of the fiscal capacities of the Canadian provinces is continuing.

W. D. Gainer has finished the first draft of a study of northern transportation. W. Mackenzie is working at Oxford University on a study of the structure of the agricultural industry in Canada. M. Bauer will be going to the University of Chicago this summer, where he will continue a study of Credit Unions in Quebec.

B. Bociurkiw will be going to Washington, D. C., during the summer and also to the University of Chicago, to complete his study of Church and State in Soviet Russia. He has been awarded a research grant from Canada Council. G. R. Davy will be going to Duke University in North Carolina this summer on a research fellowship awarded by the Centre of Commonwealth Studies in that University.

F. Anton will spend some time in Ottawa and Detroit on a study in labor economics. G. K. Goundrey will continue his research on the campus.

W. Dawson will be preparing the manuscript of his D. Phil. thesis for publication.

Members of the Department participated in a variety of activities in their special areas and interests. These activities included a number of radio talks, speeches, addresses at conventions, consulting work and writing of reports and submissions.

Zoology

During the past year the Zoology Department lost two distinguished senior members: In October, 1958, Dr. J. E. Moore was indefinitely committed to hospital; on February 23, 1959, Dr. R. B. Miller, Head of the Department, succumbed to a long illness.

Because of the illnesses of Drs. Miller and Moore, Dr. J. R. Nursall was given responsibility for the administration of the Department for 1958-59, on September 24, 1958.

Dr. Cleveland P. Hickman, Jr., who came as a physiologist from the University of British Columbia, has begun a research program on iodine metabolism of freshwater fishes, using radio-iodine as a tracer substance. Dr. Victor Lewin, who came as an ecologist-ornithologist from the Berkeley campus of the University of California, plans to begin a study of the reproductive cycle of the ruffed grouse, (*Bonasa umbellus*). Both have carried full teaching programs. Mr. David A. Boag joined the department as Curator, with the rank of lecturer; his duties have been to look after the housing and display of the faunal collection of the Department. Owing to the loss of Dr. Moore, Mr. Boag was called upon to give the course in comparative anatomy of the chordates.

During the summer the Department moved from its inadequate quarters in the Medical building to its new location in the Agriculture and Biological Science Building. The move was accomplished with a minimum of difficulty, but the process of settling-in extended well into 1959.

Within its new quarters the Zoology Department feels capable of extending the limits of its teaching and research. To this end, the Department is establishing a complete stockroom of equipment and supplies and several rooms for specialized study and research, and is expanding its staff.

During 1958-59, nearly 800 students were registered in courses taught by the Zoology Department, 425 of them in Zoology 1 alone. Fourteen demonstrators and a Teaching Fellow assisted in the laboratories.

The first student to complete the Honors Zoology Program graduated in 1959. The Honors Conservation Biology Program went out of existence with the graduation of the two last students following it. Three graduate students were associated with the Department, but none of these finished his work this year.

Close liaison was maintained with the Alberta Department of Lands and Forests. Under the joint sponsorship of that Department and the University. The Alberta Biological Station on Gorge Creek was successfully operated during the summer of 1958, and will resume operations for the coming summer in May, 1959. At the station in 1958, Dr. Miller completed another series of experiments in his study of metabolism and survival in trout. Mr. David Sheppard, supported by a Canadian Industries Limited Wildlife Management Fellowship, continued his studies of the mule deer (*Odocoileus Hemionus*), as research towards the M.Sc. Mr. Glen Adams started a study of the columbia ground squirrel (*Citellus columbianus*); this, too, will be used as credit towards the M.Sc. Mr. Boag continued his studies at the Biological Station, on the blue grouse (*dendragapus obscurus*).

Dr. Mackie spent some time at Victoria, B.C. during July, collecting invertebrate teaching materials for the Department and specimens for his own researches into tissue regeneration. Dr. Nursall continued his investigation into mechanisms of swimming in chordates.

During the academic term research was forced to a minor place in the duties of the Department, owing to the problems of establishment in new quarters and greater teaching loads than had been anticipated. However, Dr. Lewin was able to take over the duties performed by Dr. J. E. Moore for the past eight years in the annual North American Census of Small Mammals. His report to the census co-ordinator will be published in due course with the annual reports of all other co-operators. Early in 1959, Dr. Lewin was chosen to represent the Department of Zoology on the Predator Advisory Committee for Alberta, a committee sponsored by the Alberta Department of Lands and Forests. Despite restricted research, the Department was able to get an extension and an increase in a research grant from the National Research Council. In 1957-58, our grant amounted to \$4500, most of which aided studies at the Biological Station; on April 1, 1959, the Department was granted \$11,000, most of which will go to provide support for the researches of individual staff members.

Dr. Nursall represented the University at the meetings of the Canadian Committee on Freshwater Fisheries Research, and the inaugural meetings of the Canadian Society of Biologists in Ottawa, January 8 and 9, 1959.

Dr. Mackie and Dr. Nursall each presented a paper at the meetings of the Royal Society of Canada in early June, 1959.

Report of the School of Commerce

Faculty Changes

Following the resignation of Professor B. A. Lindberg as Director of the School of Commerce in the early summer of 1958 the general supervision of the work of the School was carried on by Dr. D. E. Smith, Dean of the Faculty of Arts and Science. Dean Smith was assisted by Mr. William Preshing,

Lecturer in Business Administration, during the summer months, and by Dr. Herbert Axford, Associate Professor of Business Administration and Secretary of the School of Commerce, during the academic session, 1958-59.

Mr. Emmett Wallace resigned his position as Associate Professor of Business Administration effective August 31, 1958, and Mr. Winfield S. Carrick resigned as Lecturer (case-writer) effective August 15, 1958. Mr. Ross P. Alger was appointed Instructor in Business Administration at the University of Alberta in Calgary for the 1958-59 session.

Curriculum

The first year of the revised curriculum was offered in the 1958-59 session including the new courses Business Administration 1 or 200 (Introduction to Business) and Psychology 47 or 220 (Psychology applied to business and industry). Approval was secured for two new courses in the second year, Business Administration 300 (Administrative Principles) and Business Administration 310 (Commercial Law), the latter replacing two previous courses in Commercial Law. The course in Marketing will comprise two divisions of one semester each in Advertising and Retailing. Finally, a course in Business Finance was approved for offering in the third year in the 1959-60 session. With these changes the curriculum of the School will be better able to meet the needs of students planning careers in business.

Case Collection

The University of Alberta now has 213 cases copyrighted.

During the 1958-59 session the School again provided cases for the Inter-collegiate Bibliography compiled by the Harvard School of Business Administration. Twenty-five cases were contributed by the School to this organization for inclusion in the present Volume III.

During the year fifteen cases were re-written and revised and eleven new cases, based on student assignments in Business Administration 55 were completed. Another sixteen cases from the same source were being drafted during the year. Mr. Presling had written six new cases with nine more in progress.

Extension Work

A course in Marketing was presented to the Canadian Men's Trust Association, a course in Business Management to the Engineering Institute of Canada, and a course in Personnel Problems to the Personnel Workshop.

Dr. H. M. Axford sat on the Advisory Committee for a three year program on Principles and Practices in Real Estate.

Banff School of Advanced Management

Dr. H. M. Axford gave a week of lectures on Business Communications and another week of lectures on Financing Small Business in the Tenth Session of the Banff School of Advanced Management. The School of Commerce has also acted in a liaison capacity with the alumni of the Banff School of Advanced Management in Edmonton.

Mr. Presling was the official School of Commerce representative to the Tenth Annual Business Men's Weekend and Alumni Reunion, which was held at the Banff School of Advanced Management from February 26 to March 1, 1959.

A large number of the students and faculty of the School of Commerce

attended the one-day Seminar on Canadian Economic Problems held at the Jubilee Auditorium in Edmonton under the joint auspices of the Banff School of Advanced Management, the Banff School of Advanced Management Alumni Association, Edmonton, and the Edmonton Chamber of Commerce.

Report of Professor Hazel McIntyre, Director of the School of Household Economics

Registration was 427 including summer school. This was an increase of 69 over last year, but due to a weak first year class in 1957 the total registration in the school was ten less than last year.

The attendance in Education classes is higher. We are hoping this trend will continue since there has been a tendency to register in Household Economics courses in summer school. The heavy summer school classes are most difficult to accommodate in our department, and laboratory courses cannot be carried on as successfully during the summer.

Staff

This year we have four full time instructors and two sessional. We hope to have six permanent members next year. We acknowledge with deep gratitude the very fine work done by Mrs. Helen Bentley as a sessional instructor for the past ten years. We have two new staff members in the University dining hall—Miss Lila Mann and Miss Shirley Manser. Nearly all members of the staff hold positions on the executives of professional associations and have been busy with professional responsibilities. Miss Duggan, who is a member of the Canadian Council on Nutrition, attended the conference in Ottawa in October. Opportunity for speaking engagements has increased steadily. The interest shown in Career Days shows a marked increase.

Three of our graduating students are continuing with advanced work in the United States. Miss Betty Donald is the second of our graduates to be awarded the much coveted General Foods Fund Fellowship for \$3000, in the United States. This was won by Miss Mary Morrison in 1958. We are pleased to record that two of our graduates—Elizabeth Empey and Mary Morrison—will have obtained Doctor's degrees this year. Two others are starting their work towards a Doctor's degree and four should complete their Master's degree.

The work of the department was stimulated this year by the acquisition of a microwave oven. This equipment has been used by the students and staff. Since this equipment is going into use in hospital food service as well as restaurants it will be most valuable for our students to have a knowledge of its limitations as well as its value.

Report of Dean H. R. Maclean of the Faculty of Dentistry

The total enrolment was the same as the previous year, although the graduating class shows a decrease of five. The admissions committee still has too few names from which to choose an entering class; although 83 applied for Dentistry only 35 of these had pre-professional averages of 65% or over to fill a class quota of 30 students. We find many reasons why good students are not directed or encouraged toward Dentistry as a career, although few professions offer more advantages or opportunities at this time. Therefore, recruitment—a term not popular with out guidance and counselling organizations—seems to us to be a necessary action. The Alberta Dental Association

has had a committee working on this problem. We hope to see the results of their labors in the coming list of applicants.

Many applications are still received from the United States and distant areas in Canada. We have advised these people to study in centres closer to their homes and do not encourage them unless there is a particular reason to come to this province. A number of requests for information and indications of intended residency are received from dental graduates trained in Europe. These people require on the average at least two years or more in our school to equal the qualifications we expect and demand from our own students. Our registration this year shows one student from Ghana, in the first year, and two European graduates who are receiving additional training in order to qualify.

Our academic staff is composed of four full time and twenty-six part time teachers. There is real necessity for an increase in the number of full time staff. It is impossible for these men to do the teaching, study and research that they are capable of doing because of administrative duties essential to operating the faculty being placed on the shoulders of four men. Regular monthly staff meetings are held where administrative problems are discussed and a scientific presentation is made.

The dental clinic has rendered service to 1,072 patients during the past year. One hundred and eighteen children were given preventive or interceptive orthodontic service. The Dental Pathology Laboratory prepared 1200 histological slides. Low carbohydrate diet was prescribed for 200 patients.

Five day courses in pedodontics and orthodontics were offered to the profession in 1958. A refresher course held in August 1958 was attended by 121 members of the profession. Guest lecturers were Dr. J. Thompson, Northwestern University, Dr. Muhler, University of Indiana, Mr. D. J. Rank, Australia and Dr. M. Alton of the University of Alberta Hospital staff.

Dean MacLean was elected president of the National Dental Examining Board for the second time in June 1958 at the annual meeting held in Ottawa. Dr. MacLean attended meetings of the board of governors of the Canadian Dental Association in Montreal in October 1958, the Meeting of Deans of the American Association of Dental Schools in Chicago, the Council on Dental Education of the Canadian Dental Association in Toronto in February, the International Association for Dental Research and the American Association of Dental Schools convention in San Francisco in March where he presented a paper to the Orthodontic section. Dean MacLean also presented a one day lecture and clinic to the Vancouver Island Dental Society in Victoria on April 18th, and met with the Alberta Alumni of that group on April 19th.

Twenty-seven graduates took the National Dental Examining Board examinations, June 1958 and all were successful.

Faculty liaison representation was maintained at all the meetings of the executive board of the Alberta Dental Association.

Dr. C. R. Castaldi was elected president of the Alberta Chapter of the Canadian Society of Dentistry for Children and organized the first clinical meeting of this body in September of 1958. Dr. Castaldi gave ten lectures to the Saskatchewan Dental Society at five different points in May 1958.

Dr. S. D. Fraser was made councillor of the Pacific Coast Society of Prosthodontists and Dr. H. H. MacLean was elected an active member of the American Academy of Oral Roentgenologists.

In May 1958 Dr. H. Beyron of Stockholm, Sweden, gave the staff an excellent series of lectures over a three day period.

The following research projects are in progress at the present time:

- (1) A survey of the Dental Status of Pre-School Children living in Wetaskiwin (1 PPM Fluoride Area) and Camrose (Negligible Fluoride Area) Dr. C. R. Castaldi.
- (2) Sociology Study of Attitudes of the Public Regarding Fluoridation—Dr. C. R. Castaldi and Professor R. James.
- (3) A study of Enamel Faults and the Relationship to the Time of Brain Damage in Experimental Animals—Drs. K. A. McMurphy and C. R. Castaldi.
- (4) A study of Defects in Class II Amalgam Restorations in Primary and Young Permanent Teeth—Dr. C. R. Castaldi.
- (5) A study of Resorption of Enamel, Dentin and Cementum—Dr. K. A. McMurphy.
- (6) A study of Traumatic Tooth Movement—Drs. R. D. Haryett and K. A. McMurphy.
- (7) A study of the Basic Oral Reflexes—Dr. R. D. Haryett.
- (8) A study of Inflammatory Response to Sterile Glass Rods in Connective Tissue Related to Endodontic Treatment—Dr. R. L. Tegart.
- (9) A study of Positions of the Mandible in Edentulous Patients During Prosthetic Treatment—Dr. R. P. Mullen.

Drs. Castaldi and Haryett presented seminars in four different centres to groups of practitioners totalling 80 in number throughout the province. These seminars were very well received and this is a marked contribution to graduate dental education in this province.

Dr. Tegart attended the International Endodontic conference, University of Pennsylvania, in June.

In April 1958, Dr. C. R. Castaldi visited the Harvard Dental School for two weeks, studying experimental animals used in Dental Caries Research. Traveling expenses were provided by the Canadian Dental Association.

In October Dr. Van Alstine took a civil defense course related to Medicine and Dentistry in Ottawa. Drs. McMurphy and Tegart attended the Western Regional meeting of the National Research Council held at Banff in January. Dr. McMurphy attended a five day conference on Oral Pathology held in Minneapolis in April.

Guest lecturers at the Alberta Dental Nurses Association included Drs. Cameron, Castaldi, Duke, Florence, Fraser, Haryett, Hawkins, MacDougall, MacLean, McMurphy, Stewart and Van Alstine.

Drs. Castaldi, Haryett, McMurphy and Van Alstine gave a series of lectures to the nurses at the University of Alberta Hospital.

Dr. Fraser presented an afternoon and evening clinic in Peace River to the Peace River and district Dental Society.

In March Dr. Castaldi spoke to the Devon town council and together with Dean MacLean spoke to the Medical and Dental Profession of the Westlock area in the Westlock General Hospital.

Dr. Castaldi represented Alberta on the Associate Committee on Dental Research of the National Research Council in Ottawa and is also a member of the Research Committee of the Canadian Dental Association.

Report of Dean H. T. Coutts of the Faculty of Education

Additional information concerning this Faculty is included in the reports of Dr. A. L. Doucette, Director of the University of Alberta in Calgary and of Dr. J. W. Gilles, Director of the Summer Session and Evening Credit Program.

Registration

Student enrolment rose significantly in the first two years of the B.Ed. program, in the B.Ed. program following a B.A. or equivalent degree, and in the Evening Credit Program. The most significant increase was in the secondary route. The enrolment in the Junior Elementary Program dropped slightly. The Faculty maintained active records for 2168 students during 1958-59, 701 of them in the Evening Credit Program, 1312 in full-time programs leading to the B.Ed. degree, 131 on partial programs, and 24 full-time graduates, doctoral and master's, were in residence during the year.

Degrees (see Table XIX)

Diplomas and Recommendations for Certification

The Junior and Senior Diplomas of the Faculty of Education were issued for the last time in November, 1958. For this reason we shall report here the number of students recommended to the Department of Education for the Standard E, Standard S, and Professional Certificate.

	Nov. 1958	May 1959	Total
Standard E Certificate	59 (53)	38 (46)	97 (99)
Standard S Certificate	122 (86)	203 (106)	325 (192)
Professional Certificate	217 (161)	120 (109)	337 (270)
	398 (300)	361 (261)	759 (561)

Developments during 1958-59

(a) Visitor to the Faculty

The Faculty of Education was pleased to welcome Dr. Robin Pedley, Lecturer in Education, University of Leicester.

(b) Curriculum

Slight modifications were made in the elementary and secondary route programs for the preparation of teachers. The admission standards to the Junior Elementary Program were raised to take effect on September 1, 1959.

(c) Leave of Absence

In September, 1958, Professor H. S. Baker, Chairman of the Division of Secondary Education, returned from a sabbatical leave spent at the Institute of Education in London. Professor B. E. Walker of the Division of Secondary Education spent 1958-59 on post-doctoral studies at Aix-en-Provence in southern France. During the year 1958-59, Mr. Worth and Mr. Harper were on leave of absence, the former at the University of Illinois and the latter at Edinburgh University.

(d) Staff Changes

On September 1, 1958, Mr. John E. Cheal, Mr. W. B. Dockrell, Dr. Marion B. Jenkinson, Mr. M. R. Lupul, Dr. John Macdonald, and Miss Evelyn Moore joined the staff in Edmonton with the rank of assistant professor. Sessional instructors during 1958-59 included Miss Mary Crawford, Mr. Otto Fritze, and

Dr. H. E. Smith. Additional assistance was provided by a number of graduate fellows.

Professor S. C. T. Clarke resigned at the end of 1958 to become General Secretary of the Alberta Teachers' Association. The Faculty recognizes the contributions made by Dr. Clarke as teacher, author, and research worker.

The Faculty of Education notes the retirement of Professor H. A. MacGregor who has served public education for many years as teacher, school superintendent, and defender of science education. The Faculty wishes Dr. MacGregor a long and happy retirement.

It is with regret that we accept the resignations of Associate Professor Barnett (Music Education) and Assistant Professor Wade (Art Education). Both have made valuable contributions in their respective fields.

Stanford University conferred the Ph.D. degree on Mr. E. W. Buxton, Mr. H. T. Sparby, and Mr. B. Y. Card since our last report.

(e) Representation at Professional Conferences

The Faculty was represented at the Western Canada Conference on Teacher Education (Banff), The Canadian Association of Professors of Education (Edmonton), The National Conference of Canadian Universities (Edmonton), The Canadian Education Association (Victoria), The Canadian Association of Education Through Art (Vancouver), The International Association (Toronto), and several national meetings in the United States.

(f) Graduate Study and Research

During 1958-59, the Faculty of Education continued its activity in graduate study and research. The installation of a card punch, verifier, sorter, and tabulator made possible research of much broader scope. The first in a series of monographs on education was published.

The Faculty again recognizes the assistance to its graduate and research programs of continuing grants from the W. K. Kellogg Foundation and the Carnegie Corporation of New York.

Divisional Reports

The reports from our four Divisions show more fully the variety and significance of activities in which the staff of the Faculty have been involved. The Dean recognizes with appreciation the cooperation and helpfulness of the staff of the Faculty of Education in Calgary and Edmonton, of the demonstration teachers who assist with our programs, of the clerical staff, and of others who have assisted us during the year.

Divisional of Educational Administration (Dr. A. W. Reeves, Chairman)

Each candidate for a teaching certificate takes one basic course in school administration to acquaint him with provincial school organization. This phase of the Division's work is under the direction of Mr. Harold Melsness who, in conjunction with Mr. John Cheal, is preparing a text in this field. This text should be a valuable contribution to teacher education in Canada since few books on school administration are based on Canadian theory and practice.

Educational administration is primarily for those who have completed their basic teacher education and who have had considerable classroom experience. For this reason the Division's work is largely with graduate students who are preparing themselves to be principals of large schools,

superintendents, administrators in departments of education, and professors of educational administration. The program offered is national in scope and attracts students from several provinces. In Canada it has been common practice for students in education to seek advanced degrees by summer session only. While this practice still exists at the University of Alberta (the Division served seventy-five summer session candidates for the M.Ed. degree in 1958), the 1958-59 intramural program enrolled eight candidates for the doctor's degree and ten for the master's.

Because of its unique position in Canadian school administration, the Division has some rather clearly defined objectives. These include: the improvement of preparation programs for educational administration; the stimulation of research in educational administration and the reporting of findings to practitioners; the development of the Division as a service centre for local and provincial organizations. This report will illustrate progress made toward achieving each of these objectives.

In 1958-59 increased attention was given to field experience as a part of the training program. Each student participated in a variety of worth-while activities selected to supplement other experiences in administration. For those with limited backgrounds internships were arranged. The type of program being developed requires the appreciation and support of administrators in the field. As a means of fostering cooperation of this nature the Division sponsored a three-day regional conference at Banff. This meeting was attended by city superintendents, Department of Education officials, professors of school administration and representatives of the Canadian Teachers' Federation and the Canadian Trustees' Association.

The major research project of the Division in 1957-58 was the composite high school study. The first phase of this study was reported in the newly established series of monographs of the Faculty of Education. (*Composite High Schools in Canada*, University of Alberta Monographs in Education, No. 1). The second phase of the composite high school study incorporated the individual research studies of the Division's fellowship students. The results of their investigations are being published in *The Alberta Journal of Educational Research*. The following are among the topics suggested: Alberta composite high schools and gifted youth; the extra-curricular programs of the composite high schools; role conflict in the principalship of the composite high school; a comparative study of discipline cases in the composite high schools; the guidance value of Grade IX examinations marks in relation to matriculation in the composite high schools; students of low academic ability in Alberta composite high schools.

The studies relative to the composite high schools are representative of the research activities of the Division. Dr. Mowat and his students have done significant work in school finance; Dr. Sparby has focussed attention on school law; Dr. Andrews continues to work in the area of educational leadership.

During the year members of the Division participated in a variety of service activities. The following illustrated the nature and extent of these services. Dr. Mowat continued as Vice-Chairman of the Alberta Royal Commission on Education. Dr. Andrews directed the Alberta Leadership Course for School Principals. Dr. Reeves was Associate Director of the Canadian Education Association Short Course for Canadian Superintendents. Dr. Sparby and Dr. Reeves, at the request of the School Board, conducted

a survey of the administrative organization of the Medicine Hat School District.

Division of Elementary Education (Dr. W. D. McDougall, Chairman)

The primary responsibility of the Division of Elementary Education is the preparation of teachers for the elementary classrooms of the province. Another important but secondary function is that of leadership in in-service programs for certificated teachers. In connection with this latter function, the staff of the Division has participated in conventions, institutes, and workshops in many centres in Alberta, and as far distant as Nova Scotia, Ontario, New York, Louisiana, and California.

To the extent that their primary responsibilities permitted, staff members accepted invitations to speak at meetings of the Home and School Association. Those accepting such invitations included Mr. Hodgson, Miss Dey, and Mr. Forbes.

Members of the Division served on curriculum and other committees of the Department of Education. Those most heavily involved were Miss Caldwell, Dr. Barnett, Mr. Hampson, Dr. MacGregor, Miss Lampard, Mr. Hodgson, and Dr. McDougall. Despite their heavy involvement in teaching and supervision of student-teachers, Miss Lampard and Dr. Jenkinson acted as consultants in many cases of reading disability brought to their attention by superintendents, teachers, parents, and clinics. Mr. Forbes conducted special extension classes in art in the city and in Fort Saskatchewan; Mr. Hampson made important contributions to the conservation of wildlife through illustrated lectures in Alberta and Saskatchewan and by superb examples of his photographic skill in *Birds of Alberta* by Rr. Salt and B. Wilk. Mr. Hampson has also completed twelve filmstrips for the "North American Wildfile" series. Mr. Hodgson was exchange lecturer for a week at the University of British Columbia. During the summer of 1958, Miss Caldwell was studying at the State College at Greeley, Colorado.

The University Elementary School continues to be an indispensable adjunct of the faculty. Under the capable direction of Mr. Henry Simonson, the school's teachers taught a total of 297 demonstration lessons to approximately 12,000 observers.

Division of Educational Psychology (Dr. G. M. Dunlop, Chairman)

The staff of the Division includes Messrs. Schonfield, Dockrell, and Harper, Drs. Gilles, Clarke, MacArthur, Woodsworth, Black, Anderson, Macdonald, and Dr. Dunlop. During 1958-59, the Division provided the usual course offerings in the regular session, the summer session and the evening credit program.

Five doctoral candidates are currently sponsored by the Division. Four of these should graduate in May, 1959. The Division serves, in addition, a large number of M.Ed. candidates, mostly through the summer session. A special feature of our graduate work is the Seminar in Educational Psychology.

The staff served on national, provincial, university and faculty committees:

National Committees—The CEA Research Council, the CTF Research Committee, the National Advisory Committee on Educational Research.

Provincial Committees—Alberta Mental Health Association, Provincial Guidance Committee, Alberta Advisory Committee on Educational Research, Teacher Recruitment and Retention, Alberta Matriculation Study Committee, Provincial Audio-Visual Aids Committee, A.T.A. Streaming Committee.

University Committees—University Research Committee, the First Year Committee, The University-Department of Education Subcommittees on Articulation, The Faculty Council on Graduate Studies, University Radio Committee, General Faculty Council Committee on Grading Systems.

Faculty Committees—Faculty Space and Timetable Committee, Library Committee, The Faculty Committee on Educational Research, Faculty Revisions Committee, Revision Committee for First Year Courses, Committee on Christmas Examinations, Faculty Committee on the Meaning of Marks and on Re-numbering of Courses.

Dr. Woodsworth has replaced Dr. Clarke on the Provincial Guidance Committee. Dr. MacArthur is serving as Chairman of the Committee on Grading Systems sponsored by General Faculty Council. Again it is to be noted that the staff gave generously of their time in addressing conventions, institutes and other educational gatherings. Dr. Anderson and Mr. Schonfield presented addresses to the Canadian Psychological Association at the annual meeting of the Learned Societies in Edmonton. Drs. MacArthur and Dunlop attended the Canadian Education Association meetings in Victoria at which both participated in panel discussions.

Dr. MacArthur served as Research Director to the Cameron Royal Commission on Education. Drs. Black and Dunlop were associated with the Clover Bar Educational Survey. Dr. Macdonald is providing leadership in an extensive study of achievement of over 4000 Grade VI children in the Edmonton Elementary School System.

Under the sponsorship of the Carnegie Corporation of New York, Dr. MacArthur visited ten universities in the north western United States studying current activities and policies concerning research in psychology and education. Dr. Charles C. Anderson is currently on a similar visit to the research institutions of the western United States.

Mr. Dockrell is investigating memory scores of severely retarded children; Dr. Anderson is studying moral attitudes of adolescents.

Drs. Black, Clarke, Dunlop and MacArthur served on the Faculty Committee on Educational Research.

Professor Dockrell directed the Education Clinic which serves as a laboratory for students in clinical courses as well as performing a referral role for the Edmonton City school systems. During the year 297 children were examined, all receiving individual intelligence tests. In 43 cases diagnostic tests were administered. In 37 cases projective personality tests were employed. Thirty children received clinical treatment for an average period of three months.

Division of Secondary Education (Dr. H. S. Baker, Chairman)

The Division of Secondary Education has continued and expanded its work at both undergraduate and graduate levels. At the former it has absorbed a substantial increase in student enrolments, and anticipates a further increase in 1959-60. At the graduate level it enrolls one hundred and fifteen M.Ed. candidates, the great majority of whom are proceeding to their degrees by summer session. One doctoral candidate is at the beginning and another is completing his program.

A major activity of the Divisional staff during the year has been the revision of its program to bring it in line with changing school needs. In particular, the minimum requirement of "content" courses has been increased

from six to seven, with more detailed guidance than heretofore in course patterns. Sociological emphases have been strengthened.

Graduate programs in the Division include the history and philosophy of education as well as secondary education as such. During the year a new seminar course was offered in each area: one on research in the teaching of English, and one on the analysis of educational theories. Further developments planned for the summer sessions of 1960 and 1961, involve visiting lecturers in comparative education.

The Division offers in both winter and summer sessions a graduate course in curriculum principles and practice to serve both its own students and those of the Division of Educational Administration.

Two new members of staff joined the Division in the fall of 1958: Mr. D. H. Crawford in science and mathematics education, and Mr. M. R. Lupul in history and philosophy of education and the social studies. Further expansion is planned in science and in business education. Dr. Bernal Walker, who has been on sabbatical leave during the past year, will be rejoining the staff in the fall of 1959.

In addition to their regular duties in the classroom and in the supervision of student teaching, all members of staff have been active in a variety of ways. Dr. Baker and Mr. Crawford have published articles in *The Alberta Journal of Educational Research*. Dr. Buxton has been engaged in the revision of high school texts in English. Mr. Pilkington serves as assistant to the Dean; Mr. Lupul, as coordinator of secondary methods courses. As usual, members of the Division have been much in demand at teachers' conventions, institutes, zone and departmental meetings. They serve also as regular members of Departmental curriculum committees.

Report of Dean R. M. Hardy of the Faculty of Engineering

The number of undergraduate students in the Faculty during the 1958-59 session was 1240 as compared to 1134 and 932 during the past two sessions. The increase in registration this year is at a somewhat lesser rate than during the past few years, and reflects the present trend to reduce registrations at all of the engineering schools across Canada. However the total for the present session at this University places the Faculty of Engineering third amongst the Engineering Faculties at Canadian Universities in terms of number of students in attendance.

The graduating class this session includes 175 students in all branches of Engineering which is an increase of 14 as compared to the previous session.

Major changes in the curricula in engineering, reported a year ago, and in which greater emphasis was placed on the basic sciences of mathematics, physics, chemistry and mechanics, went into effect during the current session. The modifications appear to be working out satisfactorily. Nineteen students were accepted in the third year for a program leading to the degree of B.Sc. in Mechanical Engineering, and during the session approval was given for the establishment of a department of Mechanical Engineering with full degree course privileges. A new degree course in Metallurgical Engineering was also introduced with the emphasis on extractive metallurgy. The demand for engineering graduates has continued at a high level in Canada but with the supply being somewhat closer to matching the demand than was the case previous to 1957.

Activity at the graduate level has increased in all of the Engineering

departments during the past session. Increased numbers of graduate students have been attracted to the graduate programs and this has resulted in a general increase in the amount of research work which has been undertaken in the Engineering departments. Members of the academic staff of the faculty have also been active in professional capacities. Specialized technical assistance has been provided to both public authorities and industry.

Extension activities of members of the academic staff of the Faculty continued in the form of correspondence, lectures, radio talks and extension courses. Two short courses each of five day duration were offered in co-operation with the Extension Department. One of these dealt with air photo interpretation for engineering purposes, and the second with the utilization of system analyzers in the electrical power industry. Both were well attended.

In the department of Electrical Engineering the Contraves Network Analyser has been employed on electrical power transmission network studies for Calgary Power Company, Canadian Utilities Limited and the City of Calgary. Precision instrument checking has been carried out for segments of the Canadian Armed Forces and local industry. High voltage testing of rubber gloves has been continued for the Alberta major power companies and the Department of Transport. Technical assistance has been provided to the City of Edmonton on problems arising from the installation of a new 20 30 MW gas turbine. Tests on the characteristics of certain motors for oil pumping equipment have been undertaken, and investigations have been continued dealing with certain system oscillations which occur when the City of Edmonton, Canadian Utilities and Calgary Power Company facilities are interconnected.

A major portion of the activities of the department of Mining and Metallurgy were again directed towards research. There are two large programs and two smaller projects underway. On funds made available by Eldorado Mining and Refining Company work has continued on heavy media concentration and a new project dealing with the use of activated carbon as an adsorbant for metal ions was undertaken. A similar major financial grant was provided by the Defence Research Board, Consolidated Mining and Smelting Company of Canada and the International Nickel Company of Canada Limited for work in the field of metallurgy. With these funds work was undertaken dealing with certain specific metal alloys including, Ti-base alloys, Ti-Ni alloys and Zn-d alloys. On a grant from the National Research Council a theoretical study was undertaken dealing with a relationship between contact angle and interfacial free energies in air bubble, water, mineral systems. Studies were also continued on a grant from the Department of Mines and Technical Surveys in Ottawa dealing with strata stress phenomena, particularly as related to coal outbursts in Alberta coal mines.

In the department of Chemical and Petroleum Engineering several major pieces of new equipment for petroleum reservoir engineering studies have been put into operation. These include apparatus for the electrical study of fluid distribution in porous media and for experiments on the various displacement mechanisms in fluid flow as well as equipment for running apparatus in the test well located adjacent to the Engineering building. Equipment has also been constructed for the high pressure study of filtration and formation damage in porous rocks. In Chemical Engineering an automatic process control network has been built for the use of graduate students in instrumentation studies. Work on long-term fundamental research projects has been continued in cooperation with the Alberta Research Council, and the Petroleum

Industry. Financial assistance for current research work was also provided by the National Research Council, Pembina Pipeline Company and Canadian Chemical Company. Incidental to these projects four M.Sc. theses were completed during the session. The subjects dealt with in these are:

1. Volumetric and phase behaviour of the methane-hydrogen sulphide-carbon dioxide system.
2. Hydrate formation in the methane-ethylene and methane-propylene systems.
3. Pyrolysis of propane in a surface combustion autothermic reactor.
4. Upwards vertical flow of air-water and oil-water mixtures, and in particular the effect of second phase density on pressure drop, flow pattern and holdup.

In the department of Civil Engineering further expansion occurred in the work of the department at the graduate level. A total of thirty graduate students were actively engaged in studies and research in the department in the fields of foundation engineering, highway transportation, hydraulics, applied mechanics and structures. The cooperative research program between the Alberta Department of Highways, the Alberta Research Council and the department of Civil Engineering functioned most satisfactorily during the session. Financial assistance for continuing on specific research projects was provided by the Alberta Research Council, the Department of Highways of Alberta, the National Research Council, Imperial Oil Limited and the Prairie Road Builders section of the Canadian Construction Association. Three major scholarships were provided at the graduate level in the field of Highway Transportation through the auspices of the Canadian Good Roads Association with the donors being Standard Gravel and Surfacing Company Limited, Westeel Products Limited and Union Tractor Company Limited.

Six M.Sc. theses were completed during the session; the subjects dealt with in these are:

1. Statistical interpretation of Canadian hydrometric data.
2. Direct measurement of strain in reinforced concrete pavement steel.
3. Use of the triaxial compression test in determining the strength characteristics of clay-shales.
4. Studies with small river model.
5. Evaluation of strength characteristics of Winger Pit and Crawford Pit gravels and the influence of additives upon the plasticity characteristics of Crawford gravel fines.
6. Evaluation of electronic computer techniques for highway engineering calculations.

Report of Dean A. G. McCalla of the Faculty of Graduate Studies

The Faculty of Graduate Studies has completed its first full year under the revised administration. Rapid growth of the work has been evident and improved service to students and departments has been possible.

Again this year the number of students seeking the Ph.D. degree has nearly doubled. All applicants are now accepted as provisional candidates and are admitted to formal candidacy only after proving competence. There were 26 candidates and 43 provisional candidates registered with the Faculty. Three departments: Chemistry, Dairy Science and Educational Psychology, graduate their first Ph.D. candidates this year.

Six students registered as provisional candidates for the newly established

Doctor of Education degree (Ed. D.). Most of these are registered in the Division of Educational Administration. The program emphasizes breadth in educational theory, practice and research rather than intensive specialization in a single area.

At the close of the year the Faculty was authorized to announce the establishment of new scholarship, fellowship and bursary awards under terms of the revised Students' Assistance Act. The program provides assistance totalling approximately \$40,000 and constitutes one of the best university graduate award plans in Canada. The new awards are open to graduates of any recognized university and may be held in any department offering graduate work. In addition, the grants and loans provided through the Students' Assistance Act, but formerly available only to undergraduate students, will now be available to graduate students.

Last year's report referred to registration for the intersession and the recognition of intersession work for residence credit. A total of 82 students were registered last summer, 55 of them in degree programs. It is anticipated that increasing numbers of students will carry on their research between regular sessions and take advantage of the intersession credit. The new scholarship program has been designed to encourage this.

The total number of students registered for at least one session again increased substantially from 410 to 509. The increase included 27 graduates in Medicine who were registered in the Graduate Training Program and were also registered in this Faculty as Special Graduate Students. The largest increase took place in registrations for the regular academic year from September to May. This is shown by the following distribution figures which omit the special medical students:

Session	Number of Students	
	1957-58	1958-59
Regular winter	285	328
Summer	148	152
Evening credit	44	35
Duplicates	—57	—33
Total	410	482

It is further clear that the increase was largely in doctoral programs. The distribution on students in the winter session on the basis of degree sought was as follows:

	Number of Students		
	1956-57	1957-58	1958-59
Master of Arts	34	48	55
Master of Education	70	55	50
Master of Science	72	111	109
Doctor of Philosophy	18	36*	69*
Doctor of Education	—	—	6*
Total	194	250	289
Provisional students	45	35	37
Special students	—	—	33

*Includes provisional candidates and candidates.

In addition 32 candidates for the M.Ed., one for the M.A. and one provisional student were registered in the evening credit program. All duplicates have been eliminated from these figures.

Again this year a large proportion of the 152 students registered for Summer Session were working towards degrees in Education, particularly the M.Ed. A number of doctoral candidates also registered this session and there appears to be an increasing tendency for such candidates to concentrate residence over a period of two summer sessions and the intervening winter session and intersessions.

Last year's report referred to the six-year time limit for completing work for a graduate degree. Students who began graduate work up to 20 years ago have assumed that they are entitled to complete degree requirements on the terms originally accepted. The Faculty has ruled that candidates who are already over the limit, but wish to continue, must apply for re-admission. Records will be reassessed and in many cases additional work will be required. Where additional work is required, fees will be adjusted accordingly. The introduction of this procedure has already resulted in a considerable number of students re-establishing their position in the Faculty.

Finally, the Faculty is drawing an increasing number of students from outside Canada. Only a few of nearly 100 applicants from India could be admitted as nearly all require financial assistance. For the first time an appreciable number of students from the United States have come here for advanced work. As usual graduates of many Canadian Universities are registered in the Faculty.

Report of Dean W. F. Bowker of the Faculty of Law

Academic

The number of students in attendance was as follows: Law I—38; Law II—28; Law III—30. The total enrolment and the number in the graduating class are larger than in the past few years.

During the year the newly formed Western Canada Law Students Association met here on the weekend of October 24, 1958. The students arranged a creditable program. Members of the staff from the University of Saskatchewan were also present. The teachers held an informal meeting to discuss matters of common interest.

In October, Dr. George Schwarzenberger of the University of London, and in March Dr. Wolfgang Friedman of Columbia University, addressed the students. In addition, there was a talk from Mr. C. D. Williams of Tennessee Gas Transmission Company.

There were no changes in the full-time staff during the session. This fall a fifth member will be added. The Faculty still receives valuable assistance from several Edmonton practitioners who are sessional instructors.

During the meetings of The Learned Societies which were held here in June, 1958, this Faculty acted as host at the annual meeting of the Association of Canadian Law Teachers.

Library

Accessions to the Library continue at about the same rate as they have in the past few years. The administration of the Law Reading Room is satisfactory and the students make great use of it.

Curriculum

Various changes were put into effect last fall, mainly for the purpose of reducing the number of one-hour courses and of improving the organization of subject matter. The new introductory course seems to be satisfactory. The changes are not complete and further improvements will be made in the coming years.

The Law Society

The relations between the Faculty and the Law Society of Alberta continue to be of the best. Either the Dean or Dr. Alex Smith attend each meeting of the Benchers on invitation. Thus we have maintained the close liaison this Faculty has long enjoyed with the Society.

Placement of Graduates

The demand for articulated students is still good and graduates have no difficulty finding offices in which to article. The new regulations of the Law Society of Upper Canada make it impossible for our graduates to article in Ontario. This is because that Society's new standards impose such requirements as a session of thirty weeks of lectures which is about four weeks longer than our session. Consideration will have to be given as to whether we should attempt to meet Ontario's standards.

Report of Dean J. W. Scott of the Faculty of Medicine

Only fifty-four students registered in first year Medicine this year instead of the usual sixty. This decrease from the usual number of first year students was due to an insufficient number of applicants with academic standing high enough to assure them of a reasonably good chance of success in medical school. Since registration three students have, for various reasons, dropped out of the first year class, so that the maximum number that could satisfactorily complete first year would be fifty-one and it is likely that some of these will not be successful in the work of the year. It is of interest that in each of the four western Canadian Medical Faculties less than the usual number of first year students were admitted.

Major staff changes in the past year include the resignation of Dr. C. R. Amies as head of Preventive Medicine. Dr. Stanley Greenhill has been acting head of this department since September. Dr. E. J. K. Penikett has joined the Department of Bacteriology as Associate Professor, Dr. Cyril Kay is our new Assistant Professor of Biochemistry, Dr. George Monckton is now geographic full time Associate Professor of Medicine and Dr. Allan Stewart is Associate Professor of Pediatrics, marking the first time a basic scientist has joined the staff of a clinical department as a full time member. Mr. Kent Chapman, a biophysicist, has joined the staff of the Department of Physiology as an Assistant Professor and Dr. Cecil Couves became Lecturer in Surgery on a geographic full time basis. Dr. William Forster is geographic full time Assistant Professor of Psychiatry and Dr. T. A. S. Boyd joined our staff as Associate Professor of Ophthalmology (geographic full time).

These appointments will still further strengthen our staff and permit the completion of the extensive revision of the curriculum which was instituted three years ago. The new third year of this curriculum has just been completed for the first time and staff and students alike are generally enthusiastic about it although a few wrinkles are still left to be ironed out. The new fourth (and final) year, which will be started in September of 1959, is now completely

worked out, and will continue the emphasis on close student-patient contact with increased student responsibility.

We are pleased to report that the new addition to the Provincial Laboratory is now complete and will furnish us with greatly improved facilities for the teaching of Pathology, Bacteriology and Preventive Medicine. Work on the Service Wing of the University Hospital, which will give us many staff offices and new outpatient facilities, progresses well and we are particularly pleased to report that concrete is being poured for the foundation for the new addition to the medical building, which will more than double the space in departments now existing in that building.

The other Edmonton Hospitals have continued to give us outstanding cooperation in providing teaching facilities and this is particularly important because our new curriculum has necessitated increased ward teaching in all but the first year. A special tribute in this connection should be paid to the Charles Camsell Hospital which provides us with enthusiastic teachers and unfailingly cooperative patients.

Under the jurisdiction of the Faculty of Graduate Studies our teaching departments have, in the past year, had twelve graduate students proceeding to advanced degrees and one for a Ph.D.

Concurrently our Committee on Graduate Education, under Dr. M. R. Marshall's skilled chairmanship, has guided the training of thirty-two young men and women who are seeking specialist training in various clinical subjects and in pathology. These students will receive no University degree but they will become eligible to sit the certification or fellowship examinations of the Royal College of Physicians and Surgeons of Canada when their training is completed. This year, for the first time, these students were registered as special students in the Faculty of Graduate Studies of the University, and thus they are given formal recognition by the University under whose staff they receive their training. In the past year, also, their importance to the teaching program of our faculty was recognized by the University, which paid to each eligible graduate student a small honorarium, in return for his teaching services. As in past years we have had more applicants for our graduate training program than we have been able to accept, an indication that the training received continues to commend respect across the breadth of Canada. Since its inception a total of forty trainees have completed the course including nineteen members of our own teaching staff.

In the field of postgraduate training our Committee on Continuing Medical Studies has provided training for those doctors in this Province who wish to increase their knowledge without taking long, time-consuming courses. Of particular note in this regard are the short courses of two or three days' duration which are put on in Edmonton or Calgary, and deal with certain specialized areas of medical knowledge. In addition travelling teams of specialists again visited various Alberta centers.

Our most recent service, that of Heredity Counselling, continues to expand, and in the twenty-one months since its inception has been consulted by doctors, or their patients, about 110 times. Actually even this figure is now misleading since about eight to ten consultations per month is the current rate at which this valuable service is being used.

These latter two activities fall into the realm of extension work and it might be added that, including addresses to the refresher courses no fewer than 180 different lectures were given by members of our staff to various medical and

nursing groups and lay societies in Western Canada with the great majority of these being given in Alberta. This does not include a total of 92 scientific papers on original research given to learned societies of various types in this and other countries.

Research in the Faculty of Medicine continues to expand and in the past year no fewer than 121 publications of various types, the great majority of which reflected original research in our faculty, were accepted by learned journals in Canada and abroad. The total of funds given to our faculty in the 1958-59 fiscal year by various organizations so that original research could be conducted is as follows:

University of Alberta Medical Research Fund	\$ 20,675
Defence Research Board	11,415
National Research Council	81,525
National Cancer Institute	18,620
Alberta Heart Foundation	10,500
Department of Health and Welfare	37,438
Muscular Dystrophy Association	39,410
Other sources	20,237
Total	\$239,820

The foregoing figures, which do not include various fellowships which provide aid for graduate students and for certain members of the staff, represent an increase of almost \$60,000 in the past year.

It is with great pleasure that we are able to report that for the third time in five years the Department of Surgery has won the medal of the Royal College of Physicians and Surgeons of Canada for the outstanding fundamental surgical research done in Canada in the past year. This year the recipient is Dr. Peter Allen, one of our graduate trainees in surgery.

Members of our staff have taken an ever increasing role in national and international organizations related to various aspects of medicine. They have acted in the past year as officers or members of council of the following such bodies: The Association of Canadian Medical Colleges, The National Cancer Institute, The National Research Council, The Genetics Society of Canada, The American College of Physicians, The American College of Surgeons, The Royal College of Physicians and Surgeons of Canada, The Canadian Medical Association, The Medical Council of Canada, The Edmonton Academy of Medicine, The Canadian and Alberta Heart Associations, The Defence Research Board.

The following honors have come to members of our staff in the past year:

Dr. H. E. Rawlinson has been elected President of the National Cancer Institute of Canada.

Dean Scott has assumed his duties as President of the Royal College of Physicians and Surgeons of Canada.

Dr. E. T. Pritchard was invited to take part in the Gordon Research Conference on Lipide Metabolism.

Dr. K. A. Hamilton has been appointed Alfred P. Sloan Visiting Professor to the Menninger Clinic.

Dr. A. S. Little was awarded the Elizabeth Archibald Bowes Travelling Scholarship, sponsored by the American College of Physicians.

Dr. John W. McGregor was elected President of the Alberta Division of the Canadian Medical Association.

Dr. E. O. Hohn was awarded a Clark University Fellowship in Steroid Biochemistry.

Dr. J. W. Pearce is President of the Panel on Aviation Medicine of the Defence Research Board.

Dr. P. Allen (Graduate trainee) received the Medal of the College of Physicians and Surgeons of Canada for original Surgical Research.

Dr. L. P. Mousseau was awarded an Honorary L.L.M. degree from Laval University, Quebec.

Many members of staff obtained membership or fellowship in various colleges, academies and associations, both in this country and abroad.

The whole Faculty was honored in the establishment, on this campus, of a chapter of Alpha Omega Alpha Honor Medical Society, which is a non-secret organization dedicated to improving standards in medical training and practice.

The following distinguished Medical Scientists were visitors to our Campus in the past year:

Mr. B. K. Rank, Sims Commonwealth Travelling Professor (Surgery), from Melbourne; Mr. A. I. C. MacPherson, Edinburgh Royal Infirmary (Surgery); Dr. D. R. Webster—Surgeon in Chief, Royal Victoria Hospital, Montreal; Dr. J. O. Metcalfe, Boston Lying in Hospital, and Peter Bent, Brigham Hospital; Dr. M. Roth, Department of Psychological Medicine, Durham University; Dr. R. F. Farquharson, Professor of Medicine, University of Toronto; Dr. M. L. Barr, of London, and Dr. R. Haist and Dr. W. Campbell, of Toronto, here to attend meetings of the Royal Society of Canada; Dr. Walter Bierring of Des Moines, Iowa, President of A.O.A.; Dr. Clarence Routley, of Toronto, Canadian Director of A.O.A.; Dean J. W. Macleod, Faculty of Medicine, University of Saskatchewan.

Two further additions to the Medical Faculty program should be mentioned at this time.

1. The approval of a plan whereby students between their third and fourth years may take a voluntary preceptorship with a General Practitioner in the Province. This plan is dependent upon the cooperation of the student body and the College of General Practice (Alberta Division), with the Dean's Office acting in a purely advisory capacity.
2. A new program in Medical Laboratory Science, to be taken by individuals who have completed their senior matriculation, was started in 1958. By this plan, which has the active support of the Department of Health of the Province of Alberta, students are trained for positions in hospital laboratories in Alberta and may receive the degree of B.Sc. in Medical Laboratory Science.

It is with extreme regret that I must add that this will be the last Dean's report that I will be presenting to you. I could not leave the office of the Dean of Medicine without giving a special word of thanks to all those on the teaching staff of this faculty. They have always given the fullest cooperation in every way and, despite some personal misgivings, have undertaken the increased teaching that has been made necessary by the complete revision of the curriculum. Particularly I should like to thank the over 170 part time teachers who, with very little remuneration, have devoted much time to

teaching medical students. That we have been able to change over to small group teaching on a major scale is in no small part due to their unselfish efforts.

In the eleven years that I have served as Dean I have seen a major expansion in the Faculty of Medicine; new wings have been added to the University Hospital; a building for Provincial Laboratory of Public Health has been erected and then expanded; the Medical Building itself is now in the process of receiving a major addition. In keeping with this physical expansion the staff has also expanded from 106 in 1948 (14 of these were full time) to 229 in 1959, 50 of whom are full time or geographic full time. There has been a great increase in the research carried out in the departments and a corresponding increase in the grants-in-aid of research coming in to this Faculty. In all these matters I have always received unfailing support from the University administration and to them I would like to express my sincere thanks.

Report of Professor McClure, Director of the School of Nursing

With the appointment of Miss Margaret Madden as full-time lecturer in Obstetrics, it is now possible to offer the course in Advanced Practical Obstetrics twice a year. Miss Shirley Stinson who completed her work toward the degree of Master of Nursing Administration (Minnesota) joined the staff in September. The total enrolment of the School increased from 156 to 232. Of these, 45 registered as part-time students.

The School of Nursing is anxious to continue to serve the profession by contributing toward the improvement of nursing education in Alberta. For the first time, two of the regular courses, N.Ed. 37 (Hospital Nursing Service) and N.Ed. 38 (Administration in Schools of Nursing) were taught at special late afternoon sessions so that nurses employed in city hospitals might take advantage of these courses. The response was gratifying and indicates an interest on the part of the nurses to increase their knowledge and keep up with current trends in nursing.

Two special short courses were organized in co-operation with the Department of Extension and the University Hospital. During February and March, Institutes on Operating Room Nursing were held in Edmonton and Calgary. A total of 65 nurses from all parts of the Province attended. The Provincial Department of Public Health made funds available to bring Miss Mary V. Schewendeman, Nurse Consultant of the American Cyanamide Company, to conduct the institutes. Another grant from the Provincial Department of Public Health will make possible two six week courses on the Care of Premature Infants.

In our teaching programme, it is necessary to make use of various health and community facilities for practice teaching and field work. In order to reciprocate for these services, members of the staff have given assistance and consultation to the following agencies: City of Edmonton—Health Department, Indian Health Services, Alberta Civil Defence, Provincial Department of Public Health, Alberta Red Cross Association, School for Nursing Aides, Sub-Committee on Nursing Education of the Alberta Association of Registered Nurses, Council of Community Services—Rehabilitation study Committee, Misericordia Hospital Creche.

Miss Stinson was responsible for conducting a course of instruction for I.O.D.E. camp counsellors as well as a course in Home Nursing for Farm Young People's Week.

Members of the staff have also taken an active part in professional associations. Miss McMillan acted as Chairman of the Programme Committee for the Annual Convention of the Alberta Association of Registered Nurses in May. Miss McClure, Chairman of the Western Region of the Canadian Conference of University Schools of Nursing, was in charge of arrangements for the June meeting which was held in conjunction with the meetings of the Learned Societies in Saskatoon. At this meeting, Miss Margaret Campbell presented a paper on "Why Statistics?" (the value of including a course in Statistics in University Schools of Nursing). Miss McMillan attended the meeting of the National League for Nursing in Philadelphia. As a member of the executive council, of the Canadian Public Health Association, Miss McClure attended the annual meeting of that Association in Montreal.

The increased enrolment in the School and the enthusiasm and diligence of all staff members is encouraging. We are most appreciative of the continued support and co-operation received from the hospitals, the Department of Public Health, the Faculty of Medicine and other departments of the University.

Report of Miss M. E. Schumacher, B.S., M.A., R.N., Adviser to Schools of Nursing

It is my privilege to present the first report of the Adviser to Schools of Nursing in Alberta.

The plans to have a full-time Adviser to Schools of Nursing in Alberta became a reality on April 1, 1958. The Adviser is responsible to the Committee on Nursing Education, which in turn is responsible to General Faculty Council. Two of the broad functions outlined for this post are, one, to visit and to act in an advisory capacity to the twelve Schools of Nursing and their affiliating agencies in the province; visits also include inspection to ascertain that Schools are meeting the Regulations Governing Schools of Nursing for the province. The second function is to participate in projects or studies for the purpose of maintaining and improving the standards of nursing in Alberta.

During the past year the following visits were made:

1. Number of Schools visited for purpose of orientation	12
2. Number of Affiliating Agencies visited for purpose of orientation	8
3. Number of Schools visited for purpose of evaluation	11
4. Number of Schools visited for other reasons	4
Total visits	35

Reports were completed on the eleven Schools of Nursing which were visited for the purpose of evaluation. These reports were submitted to the President of the University and subsequently sent to the Schools.

The main project of the winter was to revise the Regulations Governing Schools of Nursing. This has been a joint effort of the Alberta Association of Registered Nurses and of the Committee on Nursing Education. This endeavor will be completed in the fall.

Other activities in which the Adviser participated during the year included:

1. The Alberta Association of Registered Nurses Convention in 1958.
2. The convention of Associated Hospitals of Alberta. A paper was presented on the functions and activities of the Adviser to Schools of Nursing. This paper was later published. Schumacher, Marguerite E.,

"The Adviser to Schools of Nursing", *The Canadian Nurse*, 55:4, April 1959, pp. 332-334.

3. Three lectures on the topic of "Nursing Education in Alberta" were given to nursing students.
4. An address was given at the Capping Exercises of one of the Schools of Nursing.
5. The Florence Nightingale Pledge was taken with the Graduating Class of one of the Schools of Nursing.
6. Attendance at a workshop of the Nursing Education Committee of the Alberta Association of Registered Nurses.
7. Participation in two conferences of Directors of Nursing and Associate Directors of Nursing Education for purpose of revising Regulations Governing Schools of Nursing. These conferences were called by the University.
8. Acted as recorder for Canadian Conference of University Schools of Nursing (Western Region).
9. Attendance at the National League for Nursing Convention held in Philadelphia, 1959.
10. An observation tour of four days with the Inspector to Schools of Nursing in Ontario.
11. Participation on the Committee and in the program for Recruitment of students to Schools of Nursing.
12. Acted as a member of the board of the Central Volunteer Bureau.

Report of Professor J. R. Fowler, Director of the School of Physiotherapy

In the fall of 1958 the School of Physiotherapy graduated its third class of students. There were fourteen successful graduands, who attended a special convocation in the Students' Union Building in October, 1958. The official University party consisted of the Chancellor of the University Dr. L. Y. Cairns—who presented the diplomas; Vice-President and now President of the University Dr. W. H. Johns; the Dean of Medicine Dr. John Scott; Dr. S. Greenhill, Director of the School of Hygiene—who gave the convocation address; Assistant Professor Miss Nancy Rendell; the Registrar Mr. Cairns, and the Director of the School Dr. J. R. Fowler.

Miss Donna Mae Jackson received the Canadian Physiotherapy Association book prize in recognition of the highest standing in the class in final year.

On Varsity Guest Week-end both first and second year students put on a very educative and practical display for the visiting guests. These displays included various practical demonstrations for the re-education of muscles weakened through disease such as in poliomyelitis; an excellent educational film on "rehabilitation of the cerebral palsied child" was shown.

The graduating class this year have confirmed appointments as far east as Montreal, throughout the three prairie provinces and as far west as Vancouver. The Director is constantly receiving requests for Alberta graduates to work in small and large hospitals throughout Western Canada. It is evident once again that the demand for physiotherapists is ever increasing and it is anticipated that in the near future the University will establish a broader training programme for rehabilitation personnel.

Report of Dean M. J. Huston of the Faculty of Pharmacy

Academic

Enrolment in the Faculty was high due largely to the number of women selecting pharmacy. This is a trend that has been developing over several years but has sharply increased recently.

There is a marked shortage of pharmacists in Alberta and indeed throughout the country. However, it was necessary to impose a quota in the first year of the course because of limited accommodation. The enlarged facilities presently under construction will ameliorate this situation.

Two new awards have been made available: the Alberta Pharmaceutical Association Prize, consisting of registration with the Association, for the best thesis in Pharmacy 433 (33); and the Calgary and District Druggists' Bursary of \$250.00 for a first year student of outstanding merit from the southern part of the province.

Thirteen staff members and graduate students from the College of Pharmacy, University of Saskatchewan paid our campus a visit in March. Two days were spent in discussions of teaching and research.

Associate Professor Anderson returned from a year's sabbatical leave during which he pursued studies at the University of Washington towards the Ph.D. degree.

Dr. K. H. Palmer, a graduate of Nottingham University and of the University of Paris, was appointed to staff as Assistant Professor.

Extension and other Activities

The faculty was host to the Canadian Conference of Pharmaceutical Faculties and the Teachers' Conference and Research Conference held in conjunction with the meeting of the Canadian Pharmaceutical Association in Edmonton in August.

Bulletins on recent advances in pharmacy were prepared in cooperation with the Alberta Pharmaceutical Association and distributed to all practising pharmacists in the province.

A series of refresher course lecturers was presented at Edmonton, Red Deer, Calgary, Medicine Hat and Lethbridge. Approximately 250 pharmacists attended.

Dr. Riedel was elected chairman of the Canadian Conference of Pharmaceutical Faculties and continued to serve as Chairman of the Teachers' Conference of that organization. He acted as an abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica* and continued as Commanding Officer of the University Reserve Squadron. He was Secretary of the Association of the Teaching Staff, University of Alberta.

Dr. Murray continued as Editor of the Bulletin of the Canadian Conference of Pharmaceutical Faculties and as a member of the Poison Control Advisory Committee of the Provincial Department of Public Health. He served as a Cubmaster and as second vice-president of the Edmonton Council of Home and School Association. He acted as captain in the C.O.T.C. Dr. Murray has accepted the position of Director of the School of Pharmacy at the University of Manitoba and will be greatly missed by his colleagues at Alberta.

Dr. Huston continued as Editor of the Scientific Section of the Canadian Pharmaceutical Journal and as a member of the Editorial Advisory Board.

Staff members presented papers to professional societies, service clubs and similar groups as follows: Dr. Riedel 7, Dr. Murray 7, Dr. Huston 12.

Research

Mr. K. M. James continued studies towards the Ph.D. degree and two students were awarded M.Sc. degrees.

Dr. Riedel undertook isotope studies on the effect of various hormones on zinc metabolism.

Dr. Murray undertook further investigations on the effects of antihypertensive drugs on experimental hypertension in rats. During the summer he carried out research work for the Defence Research Board at Suffield Experimental Station.

Dr. Huston continued investigations on the effects of drugs on the tissue respiration of rats. He organized and acted as chairman of the research meetings of the Canadian Conference of Pharmaceutical Faculties.

Dr. Palmer undertook a phytochemical investigation of a number of plants.

Mr. Anderson began an analysis of Alberta bentonites.

Other problems being investigated included: response of alloxan diabetic rats to barbiturates; formulation of barium sulphate suspensions; determination of iodine value by polarography; assays of tranquilizing drugs; effect of oxygen inhalation on normal and hypertensive rats; absorption of various drugs from the isolated gut; arsenic and lead tests on commercial tobaccos; effect of drugs on experimental cirrhosis.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

Perhaps the most significant development in Physical Education during the 1958-59 Academic Session has been the announcement by the Provincial Government and the Board of Governors of the University that a new Physical Education Building would be erected on the campus. This building, which is well underway in its construction, will greatly enhance the potential contributions of the School of Physical Education. Facilities include a swimming pool, ice arena, three lecture rooms, a weight training room, two handball courts, an individual exercise room, a remedial and corrective room, two gymnasias, a tumbling and apparatus room, a rhythmic room, offices, dressing and locker rooms, a wrestling room and sundry storage and equipment rooms. The University, the School of Physical Education, and future students are greatly indebted to the Provincial Government, the Students' Union, the Alumni Association and the contributors to the Christian and Winslow Hamilton Memorial fund for making this new structure possible.

Staff

Three new staff members were added to the School in Edmonton and one was added to Calgary. They are Miss Audrey Carson, Clare Drake, Murray Smith and Donald Macintosh.

Registration (See Table IX)

The following numbers of students were registered in the Service Program: Women (1st year, required), 253; Men (1st year, required), 771.

Extension Services

In addition to the usual clinics, talks, demonstrations and participation on provincial and national boards and committees, members of the staff have been active through executive positions in the following: Canadian Association

for Health, Physical Education and Recreation; Alberta Recreation Board; Parks and Recreation Association of Canada; The Red Cross Society; St. John Ambulance; Alberta Amateur Basketball Association; Young Men's Christian Association; Alberta Basketball Officials' Association; Alberta Schools Athletic Association; Western Canadian Intercollegiate Athletic Union.

Intramural Sports

The two programs for men and women continue to operate with maximum use of the current limited facilities.

Women	1957-58	1958-59
Number of Sports	10	10
Number of Teams	72	77
Number of Games Played	268	255
Number of Participants	920	829
Men		
Number of Sports	12	11
Number of Teams	161	173
Number of Games Played	732	980
Number of Participants	2530	2580

The Intramural Program will be without turfed playing fields for at least one more year or until the completion of the landscaping around the new building.

Intercollegiate Athletics

Members of the Physical Education staff direct, supervise or coach the following teams and clubs:

Women: Volleyball, Swimming, Golf, Basketball;

Men: Cross Country, Hockey, Volleyball, Basketball, Golf, Swimming, football.

Western Intercollegiate Championships were won over the past year as follows:

Men: The Rawson Trophy—Wrestling; The Rigby Trophy—Basketball; The P. S. Warren Trophy—Cross Country.

Women: Cecil E. Race Trophy—Basketball; Sam Landa Trophy—Volleyball; Felstad Memorial Trophy—Swimming; C. R. Spooner Trophy—Curling; Proctor Memorial Trophy—Golf.

Report of Dr. A. L. Doucette, Director, University of Alberta in Calgary

1. General Items

(a) Student Enrolment

We have experienced the beginning of a marked rise in student enrolment. The overall percentage increase in the different Faculties in Calgary is 24% higher than it was during the last academic year. This is a sort of advance notice of what the future probably holds. Not only do we have immediate problems in providing classroom space for increasing enrolment in 1959-60 prior to our occupation of the new site, but we are having to handle such increase without any additional plant space. As a result of increased student enrolment one senses the need for facing up to the problem of finding the staff to meet the needs of the next academic year and of the academic years to come. One senses the need of thinking in terms of five-year periods of planning rather than for one immediate year just ahead. The new buildings on

the north-west site along the Banff Trail will no doubt be filled as soon as they are built. When the new site begins to be developed there will be a new pattern evolving which will meet the tremendous issues of increased student enrolment in the area of higher education. It is interesting to note that in regard to student enrolment in the various Faculties statistical figures are significant. In the Faculty of Education in the one-year program there was a reduction of 10% over the previous year, this being the first drop in enrolment since the year 1954-55. At the same time there was a large increase in the Bachelor of Education degree programme for teacher training represented by an increased enrolment of 71%. It is interesting to observe that a good number of students are enrolling in the secondary route programme which prepares for high school teaching. We are gratified this year to find about 19 students in the Bachelor of Education degree programme following a Bachelor of Arts or equivalent degree achievement. These students will, of course, be absorbed largely in the senior high schools of the province.

The Arts and Science Faculty experienced an increase of 44% over its previous year's enrolment and in Engineering there was an increase of 21%. There were very significant increases in the Evening Division Programme (courses for credit) and also among the partial students in Education and in Arts and Science. There are nearly 700 students being served in the full-time day enrolment programme and in the Evening Credit and partial student enrolment programme. If we add to this the students enrolled in the Extension Courses, which are on a non-credit basis and which take place in the evenings, the University of Alberta in Calgary is servicing between 1,500 and 1,600 students.

(b) *Grounds and Premises*

We continue to share the grounds and premises with the Institute of Technology and Art, with University students to the west of the building and the Institute students to the east. Car parking areas are completely filled and parking is definitely at a premium.

We have had to convert the men's smoking lounge into a classroom but have been able to retain the ladies' Wauneita lounge for social purposes and for general staff meetings.

(c) *Closing Exercises*

The Closing Exercises were held on April 11th, 1959 in the Southern Alberta Jubilee Auditorium and some 2,000 people attended. The customary noon luncheon was held in the basement of the auditorium and a tea, open to the public, was held in the basement after the Exercises were concluded. The Exercises were under the chairmanship of Chancellor L. Y. Cairns and visiting officials from Edmonton included His Honour Lieutenant Governor J. J. Bowlen, President Walter Johns who gave the main address on higher education today; other visitors included the Dean of Arts and Science, Dr. D. E. Smith, the Dean of the Faculty of Education, Dr. H. T. Coutts, Dr. Govier, representing the Faculty of Engineering from Edmonton, and the Honorable A. O. Aalborg.

(d) *Open House*

We continue to postpone the holding of Open House until the new premises are opened on the north-west site along the Banff Trail.

(e) *Radio talks*

Several panels of the students and staff have contributed to radio publicity again as was the case last year and some appeared on television.

(f) *Teachers' Convention*

The staff of the Faculty of Education again assisted here and there at Alberta teachers' convention in the southern part of the province.

(g) *Career Days*

Dr. J. G. Woodsworth was particularly generous with his time in assisting with career days in the southern part of the province. Members of Arts and Science, Education, and Engineering also assisted with career days in the high schools in the city of Calgary.

(h) *Western Canada Conference on Teacher Education*

This Conference continues to operate under an annual convention which is a very worthwhile programme indeed. The Conference will be held in May in Winnipeg with the University of Manitoba Faculty of Education acting as hosts. Dr. T. G. Finn and Dr. A. L. Doucette will be the official delegates from the University of Alberta in Calgary.

(i) *World University Service*

The Treasure Van came to us in October and the amount of money raised was the second largest sum in any year since the Treasure Van started coming to Calgary.

(j) *Other Conferences*

The Conference of Learned Societies is to be held in Saskatoon in June and will be attended by Dr. T. G. Finn and Dr. A. L. Doucette.

It is planned to send Mr. S. A. Lindstedt to the Canadian Education Association conference in September, 1959 where he will render a paper on retarded children. Dr. T. G. Finn will serve as a member of a panel at this same convention on the subject of history.

2. *Special Reports*

(a) *Faculty of Arts and Science*

As indicated in an early part of this report the enrolment in Arts and Science increased around some 25% in 1958-59. The total staff was increased by 7 members with appointments in Physics, Chemistry, Modern Languages, Geography, and Geology.

In research, Professor A. R. Prince continues his study of the lichens of Alberta. Dr. Cyril Challice took part in a joint paper delivered to the Biophysical Society at Pittsburgh. The title of the paper was *Development of Discs, Filaments, and Crosstriations in Heart Muscle*. Another paper by Dr. Challice, written in conjunction with G. A. Edwards, was published in *Experimental Cell Research*. Dr. Brian Wilson's "A Study of Mu-mesons" was published in *The Canadian Journal of Physics*, January, 1959. In the summer of 1958, Professor A. Winspear spent seven weeks on a lecture tour of England which was sponsored by the Commonwealth Institute. The title of Professor Winspear's lecture was "By Tanker up the British Columbia Coast in the Wake of Captain Vancouver". While in England, Professor Winspear talked on Lucretius for the BBC. Professor Frank Anton recently completed for the Federal Government his study on "Government Supervised Strike Vote Legislation" and in the past years gave two talks over the CBC on Industrial Relations.

(b) *Faculty of Education*

The numbers in the Junior Elementary programme decreased by about

twenty students. In the Standard Elementary programme only two of the five students from the previous year took their second year in Calgary but those entering the first year increased to 22. Major increase was apparent in the Standard Secondary route moving from 40 to 53, and there were 13 students registered in the first year Bachelor of Education, Industrial Arts programme, and all time record.

The most startling change came in the Bachelor of Education after Undergraduate Degrees, which in the past has never been more than five students. During 1958-59 there were 19 such students registered in Calgary.

There were no new staff members appointed during the 1958-59 year nor any on leave of absence. During the 1958-59 academic session, Mr. S. A. Lindstedt continued to work as Survey Analyst to the Royal Commission on Education chaired by Senator Cameron.

The general manager of the Ryerson Press announced officially in the morning papers of Toronto on Saturday, March 14th, 1959 and by radio at 10:00 p.m. Friday, March 13th, 1959 that the *Ryerson Fiction Award* for 1959 had been won by Arthur G. Storey, Associate Professor of the University of Alberta, Calgary, for his novel *Prairie Harvest*.

(c) *Faculty of Engineering*

During the 1958-59 academic year first year Engineering is being taught for the second time at the University of Alberta in Calgary. The initial enrolment consisted of 75 full-time students and one part-time student. Of these, 4 have withdrawn, leaving a present enrolment of 72.

These students are taught by two full-time Engineering instructors, with courses in mathematics, physics, chemistry, and physical education, being given by the respective departments in Arts and Science. Again, this year the Engineering Faculty is enjoying excellent co-operation from all instructors and departments.

Early in the year the illness of a member of the Mathematics Department necessitated the taking over of his courses by an Engineering instructor. Mr. Becker, of Banff, came in to take the engineering classes given by this instructor.

It appears that there is a growing demand for second year Engineering courses in Calgary and it is hoped that these may be offered when the University transfers to the new site.

It may be of interest to know that half of the 1957-58 first year Engineering class of 55 students obtained a clear pass on final examinations. Seven students required to withdraw from Engineering for at least one year. Several others transferred to other fields or Universities. However, the large majority of those with a clear pass and of those writing supplemental examinations have gone to Edmonton and are taking second year Engineering there.

(d) *Student Advisory Services*

The duties of the Counsellor of the Student Advisory Services in Calgary, have not changed appreciably from those indicated in previous reports. However, the volume of "business" has increased (with enrolment and with greater student awareness—University and high school—of the facilities of this University service) to the point where a full-time stenographer-receptionist is essential for the adequate operation of such a service. During 1958-59 the efficiency of Student Advisory Services in Calgary has suffered as a result of

the heavy administrative-teaching-counselling duties carried by the person in charge.

(e) *Library* (see also the report of the Chief Librarian)

The librarian reports that every area of the library showed an increase in activity, and the problem of space looms large—not only space for the new books acquired, but study space for the students.

The library was serviced by a full time staff of three—one professional, Miss Dorothy E. Ryder, and two library assistants, Mrs. Emily O'Sullivan and Miss Betty Gilbert. Three student assistants were employed for a total of 375 hours. For the work of reclassification during the four summer months it was necessary to employ one temporary clerk typist.

The two most important incidents during the year were (a) the reclassification of one half of the library holdings to the Library of Congress Classification System, and (b) the increased responsibility given to the Library Committee which now acts in an advisory capacity to the Librarian in the allocation of book funds to the departments.

During the year, 832 books were ordered, and the number of gifts received was approximately 540 volumes. Dr. V. E. Graham donated 30 volumes, Mr. Charles W. Matheson gave the Library 150 volumes to be called the William Winfield Matheson Memorial Collection, 105 volumes were received from the Carnegie Corporation of New York, the Drama Society, University of Alberta in Calgary, donated 88 volumes of plays, and the Rutherford Library has given about 120 volumes, 68 of which were duplicates from the Rutherford Canadiana Collection.

The book collection now numbers 21,000 volumes, and there are 192 periodicals received regularly in the Library.

(f) *Extension activities*

The University of Alberta in Calgary again provided liaison assistance to the Department of Extension for its evening course programme on the Calgary campus. The service rendered consisted of handling enquiries, mailing lists, registration fees, classroom arrangements, textbooks, and so on.

Ten classrooms (an increase of four over the previous session) were provided in the Education Building, with janitor services arranged by the Director's secretary, Mrs. Haine. In addition, the University placed its audio-visual equipment at the disposal of Extension course lecturers.

It will be seen from the following figures that the Extension Department increased its activities on this campus by more than 50% this year:

—a total of 704 students attended 26 different courses on the campus as compared to 234 registered in 9 courses a year ago.

—the sum of \$6,633.50 was collected in fees here, as compared to \$2,382.00 last year.

—textbook sales this year amounted to \$186.50 an increase of \$124.00.

—in addition to the 704 regular students, there were 121 attending single lectures in the Science course.

As well as the courses held on this campus there were 5 special courses sponsored by the Extension Department in conjunction with local groups in industry, and held at selected points in the city. Registration totalled 394. This office handled enquiries and registrations for one of these, namely "Managing Investments".

(g) *Report of the Provost, Dr. J. D. Aikenhead*

Dr. Aikenhead advises that his predecessor, Dr. A. A. Gib, gave him valuable counsel and that the provost files up to August 31st, 1958, when he took over the provost work, were of definite assistance to him. He reports further that he has received invaluable support from Drs. Doucette, Finn, and Guy, Mr. H. R. McArthur, and Mr. A. A. Day, the latter being President of the Students' Union. It is my own feeling that the full staff and student body have contributed generously toward a worthwhile year for the students.

The Provost reports that toward the end of "Queen Week" last fall there was a minor disturbance related to practice-teaching. This was effectively dealt with by the Students' Discipline Committee and cleared up to the total satisfaction of the Calgary administration.

Special words of praise go forward from the Provost to Mr. Goodwin and the members of his Physical Education Department, also to Mr. Smith, of the Music Department, and all persons who have duties to perform as staff representatives in extra-curricular programmes carried on students. The campus would be indeed drab without games, drama, and music. The persons connected with the various organizations work long hours to build campus spirit. Student representatives deal with their colleagues in such a way as to exercise control over discipline problems. The additional number of engineers, along with the increase in arts and science students, brings about a fine co-educational spirit in social activities. A few years ago when Education was the only Faculty on campus there existed a marked imbalance in this respect. The foregoing factors should continue to build a strong student body in the future.

(h) *School of Physical Education—University of Alberta in Calgary*

The intra-mural athletic and recreational programme was revised so that all activities had scores allotted which were used to determine the overall Faculty winner. Each activity was organized on the basis of the Faculty but efforts were made to have every student participate in one or more sports. Included in this arrangement were volleyball, basketball, badminton, curling, and tumbling for both men and women, as well as hockey and football for men. The space requirements presented a severe handicap but despite this, approximately 80% of the students took an active part in at least one organized activity.

The extra-mural programme included full affiliation in the Calgary Inter-collegiate Athletic Association which conducted leagues in men and women's basketball, volleyball, curling, and badminton, as well as hockey for the men. A few exhibition games and tournament participation along with the Education Undergraduate Society sponsored sports' days with Edmonton, rounded out the programme. The men's and women's basketball teams took one additional out-of-town trip.

The addition of a male staff member in the person of Mr. Macintosh improved the calibre of all activities sponsored by the School of Physical Education as well as distributing the extra-curricular load of the other members. The tone of the entire School has improved by the presence of this staff member.

In all aspects of its work, including the professional courses, the service classes, and the intra-mural and extra-mural programmes, the members of the School of Physical Education have constantly sought to keep the philosophy of Education and Physical Education on a high level and tried never to lose

sight of the major objectives of citizenship and sportsmanship, coupled with the best possible academic standing of all students.

(i) *Bookstore Operations*

The lack of a regular bookstore on the campus here has, in past years, presented the authorities with many problems. As a result Mr. N. S. Howe, the manager of the University bookstore in Edmonton, paid a visit here in 1958 (March) and outlined a policy designed to facilitate the handling and sale of textbooks on this campus until such time as a permanent store could be opened on the new University site.

Increased staff and a higher student enrolment taxed our space last fall to the extent that we were unable to accommodate the Edmonton bookstore salesman, on our own premises, as we have done in the past. Through the courtesy of the officials of the Institute of Technology and Art the bookstore salesman was able to use the office annex as a temporary store, and he opened on September 22nd for a three-week period during which time the office annex building was not used by the Institute. This space was entirely satisfactory, and it is hoped that we may avail ourselves of it again next fall.

The bookstore was closed out on October 10th, with the bulk of the sales completed, and the remaining textbooks, booklets and pamphlets were turned over to the general office here, in accordance with the above-mentioned policy.

(j) *Report on Fee Operations, September 1958-59*

The fee operations were handled by Miss Wardle for a second year. The registration fees and other matters relating to the work of a Bursar's office for all Faculties at the University of Alberta in Calgary were handled in the Fee Office. Details of these operations are as follows:

(1) *Registration Fees*

A total of 727 students paid their own fees, amounting to \$82,326.00. Another 3 students had their full fees paid by the Department of Veterans' Affairs. (These figures show an increase of 164 students and \$24,200.50 in fees over the corresponding ones for the 1957-58 session. This is a substantial increase in fees, even when we take into consideration the fact that part of it is due to the rise in fee rates for all faculties this year.)

(2) *Annual Scholarships and Prize Monies*

After initial processing here, the final adjustments on the fees for winners of these awards were made by the Bursar's office, from the award monies, which the various donors left in trust in the Bursar's office.

Twenty-three students shared \$10,600 in scholarships and prizes administered by the Bursar.

(3) *Bursaries*

Bursary cheques have been distributed through this office.

(4) *Students' Assistance Act Loans and Grants*

Loan and Grant cheques were distributed to 16 students through this office.

(k) *Medical Services*

Again arrangements were made with the Calgary Associate Clinic to medically examine our University students. 431 were examined, of whom

approximately 50 had disabilities and were referred back to the Clinic for a further check.

During the year most of the students referred to the doctor for advice and treatment had respiratory infections or their complications. Most absenteeism was due to this.

In early December, Dr. Mullin from the Baker Memorial Sanitorium, gave the Mantoux test to 332 University students. 24 of these proved to be positive reactors, but X-rays showed none of them have to have active disease. In February, the mobile X-ray unit x-rayed 274 students and staff, none of whom had active tuberculosis.

General Summary

The Director of the University of Alberta in Calgary wishes to express his warm appreciation to all members of his staff for their generous co-operation and assistance in committee work, in supervising extra curricular activities, and in their general class preparation work. There is a fine spirit of co-operation here and it is felt that an excellent service is being rendered the students.

Student affairs are under the supervision and direction of the Director and the Provost, with the Provost acting as commander-in-chief. At the Calgary meeting of the Committee on Student Affairs and at the Edmonton meeting as well, informative reports were given on the extracurricular activities and responsibilities being handled by the Students' Councils in Edmonton and in Calgary. We have had a very fortunate year in Calgary with excellent direction by the President of the Students' Union, Mr. A. A. Day, and a very efficient Students' Council.

The student athletics awards and gold and silver pins for extra curricular merit were presented at Colour Night at the Palliser Hotel, at which time Professor L. E. Gads, of the Faculty of Engineering, was the guest speaker. This function was one of the most successful we have had in the history of the University since its beginning in 1945.

The Director wishes to express his own personal appreciation to the members of the administration in Edmonton in all departments, in all Faculties, and at all levels, from the President downward. He often feels that without this guidance his work would be much heavier indeed. My special gratitude goes to Dr. Stewart, who has resigned as President of the University, for his generosity and kindness throughout the years of his presidency, and for his interest and concern in the development of the University in Calgary. It is gratifying to know that Dr. Walter H. Johns, who succeeds President Stewart as top administrator at the University in Edmonton, shares the point of view displayed by his predecessor in office.

Regarding the planned developments for the buildings on the new site in north-west Calgary, I wish to express my thanks to Mr. G. W. Sadler and his staff in the Department of Works on the University campus, and also to the members of the Department of Public Works for the Provincial Government.

In closing I should like to make special reference to the Convocation and Sod-turning ceremony held in Calgary on November 1st, 1958 at which time the Hon. Fred C. Colborne, Minister without Portfolio, turned the first sod for the Arts-Education-Administration building on the north west site. The day was a memorable one and was a fitting conclusion to the Jubilee Week ceremonies held in Edmonton.

Report of Dr. J. W. Gilles, Director of the Summer Session

1. Registration and Attendance

The advance registration for the 1958 Summer reached a total of 2658. Of this number, 434 students failed to attend so that the actual enrolment amounted to 2224, an increase of 318 over that of the preceding year. To this number must be added another 110 students who were registered in the Emergency Teacher Training Program, and 75 in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1958 Summer Session was 2409 compared with 2149 last year. A summary of the attendance figures follows.

Summary of Attendance

Faculty	Male	Female	Total
Education	675	1091	1766
Arts and Science	119	47	166
Graduate Studies	109	40	149
Commerce	7	—	7
Household Economics	—	5	5
Nursing	—	1	1
Pharmacy	3	3	6
Engineering	5	—	5
Physical Education	2	—	2
Specials	46	71	117
	966	1258	2224
Emergency Teacher Training Program			
Second Session Students	66		
Third Session Students	44		
			110
Leadership Course for School Principals			75
			2409

Of the 2224 students who attended the regular Summer Session, approximately 79% were registered in the Faculty of Education, 8% in the Faculty of Arts and Science, and 7% in the Faculty of Graduate Studies. The remaining 6% were distributed through various schools and faculties or were registered as special students.

A summary of Summer Session enrolments for the last five years is given below.

Summer Session Enrolments, 1954-58

Year	Regular S.S. Course	Emergency T'cher Train'g Program	L'dership Course	Total
1954	1608	132	—	1740
1955	1674	160	—	1834
1956	1898	202	67	2167
1957	1906	178	65	2149
1958	2224	110	75	2409

It will be noticed that enrolments in regular Summer Session courses, which levelled off in 1957 after a marked increase in 1956, surged forward again in 1958.

2. Instructors

The Summer Session teaching staff, including that of the Emergency Teacher Training Program, was comprised of a total of 120 instructors, 5 more than in 1957. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time Members of University Staff	60
Instructors from Affiliated Institutions	5
Guest Instructors from Alberta	
Department of Education	6
School Systems	13
Others	10
	— 29
From Other Provinces	13
From U.S.A.	13
	— 55
	—
	120

Visiting instructors from outside the Province included the following:

Miss Hariett Adams	Iowa State College, Ames
Dr. Walter S. Avis	Royal Military College, Kingston
Miss Grace Bentall	Portland Public Schools
Dr. J. Herbert Burgy	Bradley University, Peoria, Illinois
Miss Myrtle Carlson	Lower Columbia Junior College, Longview, Wash.
Dr. Truman Cheney	Portland State College
Dr. A. John Clarke	Brigham Young University, Provo, Utah
Mr. Lawrence Cluderay	Vancouver, B.C.
Miss Eleanor Dobkin	Brooklyn College, Brooklyn, New York
Mr. P. D. Drysdale	Memorial University of Newfoundland
Dr. Douglas C. Fraser	Waterloo College, Waterloo, Ontario
Mrs. Marcia Freeman	Cleveland High School, Portland
Dr. Frank E. Hartung	Wayne State University, Detroit
Mr. John A. Irving	Victoria College, University of Toronto
Miss Marjorie Jenkins	Macdonald College, Quebec
Dr. Martin Joos	University of Wisconsin, Madison
Mr. William Mackey	Laval University, Quebec City
Mr. Stanley Mealing	Carleton University, Ottawa
Dr. Marguerite Michaud	Teachers' College, Fredericton, N.B.
Dr. Miner T. Patton	Irvington School, Portland
Dr. Harry Pullen	Collegiate Institute Board of Ottawa
Dr. John A. Schulz	Oregon State System of Higher Education, Portland
Dr. Cairns K. Smith	Oregon State College, Corvallis
Miss E. Marie Spence	McGill University, Montreal
Dr. Samuel Strong	Carleton College, Northfield, Minnesota
Dr. J. P. Vinay	University of Montreal
Dr. Morris Zaslow	University of Toronto

3. Courses

A total of 102 credit courses, four more than last year, were offered in the 1958 Summer Session—94 for students in the regular session and 8 for those in the Emergency Teacher Training Program. Use was again made

of shops and classrooms at Victoria Composite High School for offering courses in Industrial Arts and Business Education.

In response to a request from the Canadian Linguistic Association the University conducted, as part of the regular Summer Session, a special Summer School of Linguistics. The following program of seven courses, all carrying University credit, was offered. Descriptive Linguistics, General Linguistics, Modern English Grammar, Linguistic Geography, Teaching English as a Second Language, History of the English Language, and Romance Philology. Eight instructors were required to provide the program. Three of these were members of the University's regular staff, and five were guest instructors, four coming from other Canadian universities and one from the University of Wisconsin. A total of approximately 190 course registrations were received in the seven-course program.

Sociology 60—Sociology of Group Relations—which was first offered in the 1957 Summer Session at the request of the Canadian Council of Christians and Jews (Western Division) was offered again in 1958.

The non-credit short course in educational leadership for school principals was given again at Concordia College during the 1958 Summer Session with 75 principals in attendance, nine of them women.

4. *Size of Summer Session Classes*

A definite attempt is made to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected fall into two classes: Those where specialized equipment needed for teaching is available in limited quantities; and courses in the fields of History, English, and Elementary Education. Generous quotas, and a generous provision of courses in these areas provide assurance that students' needs are adequately met. In the cases of certain popular courses, especially where these are required courses in certain degree programs, multiple sections are provided.

The following table shows the distribution of classes according to size in the 1958 Summer Session.

Distribution of Classes According to Size

Size of Class or Section	Frequency
10 students or less	7
11 to 40 students	80
41 to 60 students	22
61 to 80 students	11
81 to 100 students	6
Over 100 students	—
Total	126

In the 1958 Summer Session, the average class load was 34 students per instructor as compared with 34 in 1957 and 35 in 1956.

5. *Special Events Program*

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of four lectures and one musical program. The speakers in the lecture series and their topics were: Jean-Paul Vinay, Director, Department of Linguistics, University of Montreal, "Beyond the Sentence"; Francis S. Chase, Chairman, Department of Education, University

of Chicago, "The Response of the Schools to the Challenges of the Twentieth Century"; M. H. Scargill, Professor of English, University of Alberta, "Dictionary of Canadian English on Historical Principles"; and Martin Joos, Professor of German and Linguistics, University of Wisconsin, "Semology: A Linguistic Theory of Meaning". The musical program was the traditional Choral Concert presented by the combined music classes of the Summer Session under the direction of their instructors. Attendance at the lectures and at the Choral Concert was very good.

The Rutherford Library again sponsored a series of weekly recorded programs of music and plays which were presented in the music listening room.

A Service of Worship conducted by Dr. E. J. Thompson, Principal of St. Stephen's College, was held in Convocation Hall on Sunday, July 27.

6. *Concomitant Activities*

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization, were given between the hours of 3:00 and 6:00 p.m. Approximately 80 teachers completed the courses this summer as compared with 90 last year and 50 in 1956.

Tuberculin Skin Testing Program

Summer Session students again were given the opportunity to take the Tuberculin Skin Test in a testing program organized by Dr. G. R. Davison, Director of the Division of Tuberculosis Control, Department of Health. Those who reacted positively to the test were later given X-Ray examinations.

Banff School of Fine Arts Programs

The Summer Session cooperated actively with the Department of Extension to promote attendance at the Banff School's presentations of opera and ballet in the Jubilee Auditorium on August 11th and 12th.

Report of Dr. J. W. Gilles, Director of the Evening Credit Program

In 1958-59, Evening Credit Program courses were offered at eight centres, the same number as last year. However, two centres that were active in 1957-58 did not operate this year. Suitably qualified instructors could not be found for Medicine Hat. At Lethbridge, the Junior College offered three credit courses on an extension basis, thus making it unnecessary for the University to offer a course. Two new centres came into operation this year, Barrhead and Grande Prairie.

The most remarkable feature of this year's operations was the great increase in the number of students who registered. Although only five more courses were offered this year than last, two additional at Edmonton and three at Calgary, the total registration was 811 students as compared with 549 in 1957-58, an increase of approximately 48%.

The salient features of this year's Evening Credit Program as compared with last year's are set forth in the following summaries.

Centres, Courses and Registrations

Centre	Number of Courses Offered		Number of Students Registered	
	1957-58	1958-59	1957-58	1958-59
Edmonton	16	18	365	479
Calgary	2	5	60	131
Lethbridge	1	—	30	—
Medicine Hat	1	—	8	—
Red Deer	1	1	22	61
Camrose	1	1	20	36
Vegreville	1	1	29	41
Holden	1	1	15	31
Barrhead	—	1	—	20
Grande Prairie	—	1	—	12
	24	29	549	811

Classification of Students

	Registration	
	1957-58	1958-59
Faculty of Education	353	576
Faculty of Arts and Science	65	82
Faculty of Graduate Studies	38	32
School of Commerce	24	17
Other Faculties and Schools	7	5
Special Students	62	99
	549	811

The Faculty of Education continues to register the majority of students who take Evening Credit Program courses, 71% of the total registration this year as against 66% in 1957-58. Registrations in the Faculty of Arts and Science were about 10% of the total, about the same as last year. In spite of the great increase in total registrations, registrations in the Faculty of Graduate Studies declined slightly.

Teaching Staff

The Evening Credit Program employed a total of 31 instructors, 23 of whom were also members of the University's regular teaching staff. Instructors were obtained locally for the courses offered at Grande Prairie, Barrhead, and Red Deer. The classes at Camrose, Holden, and Vegreville were taught by instructors from Edmonton.

Report of Mr. B. B. Peel, University Librarian

The University Library is a service institution having as its functions the collecting and organizing of printed materials for the use of the university community, and the assisting of library users to find information needed in their study and research. In the first of these functions, collecting, the library is able to report an increase in book acquisitions of 11% over the previous year, or, if to this is added documents, an increase in acquisitions of 33% over 1957-58. The library received and processed 30,486 books, pamphlets, and documents.

As a description of the contribution of the library to the teaching and research program of the university, statistics have their limitations and can be used to measure only the more tangible contributions. However, the figures given below have significance particularly when compared with those of earlier years. In the three libraries of the university library system—Rutherford, Education, and Calgary—the attendance (student hours spent in the library) was 649,872, an increase of 13%, while the circulation of books was 282,188 volumes, or an increase of 10%. The circulation figure by no means represents the total use of books since it does not include the thousands of books read or consulted in reading rooms and stack areas. Whereas for several years attendance and use grew at a fairly constant rate, for the past two years these figures have bounded upward. This has been more noticeable in some areas of the library than in others.

The library staff directly participated in the interpretative function of the university by instructing students in effective methods of using library facilities and materials, and by answering thousands of reference questions. At the beginning of the regular session the library again gave instruction in library use to freshmen. This instruction was expanded in subject reading rooms; indeed in one reading room seventy hours of instruction were given by the librarian, with the aim of making every student conversant with the standard indexes and abstracts in his field of study. On an experimental basis library instructions was offered for the first time to students enrolled in the evening credit program.

The rapid expansion of the university has brought requests for an extension of certain library services and demands for larger quantities of library materials. In a single year requests from teaching staff for materials on interlibrary loan more than doubled, reflecting the increase in research on the campus. A larger enrolment makes necessary the purchase of numbers of duplicate copies of books for reading lists in junior courses. The acquisition policy in the past was geared to an undergraduate university, so that the sudden emergence of graduate programs in several disciplines has found the library wanting. Consequently, in the immediate future library acquisitions must be accelerated to keep pace with developments on a rapidly changing campus.

In response to requests for longer hours, three areas of the Rutherford Library—the Main Circulation Area, the Medical and the Applied Science Reading Rooms—were open on Saturday mornings throughout the summer. Commencing in December, for the duration of the winter session, these same areas of the Library were open for four hours on Sunday afternoons to staff and graduate students.

Staff

During the year there was one addition to and one resignation from the professional staff. In June Mr. Wilfrid Rudy joined the staff as a cataloguer, while in August Miss Loretta Millar left the circulation staff to take a library position with the local branch of Imperial Oil Ltd. For much of the year the library operated with two fewer professional staff than it had had for several years. With the increase in the service load the responsibilities of professional staff were extremely heavy.

Among the non-professional staff there were the usual changes.

Four staff members, namely the Chief Librarian and Misses Carrier, Fenton,

and Russell, attended the Canadian Library Association Conference in Quebec City in June.

Miss Norma Freifield is president of the Edmonton Branch of the Canadian Federation of University Women.

Mr. Donald Baird's bibliography of 20th century criticism of the English novel was published in March.

The Chief Librarian acted as one of the judges on the Governor-General's Awards Board.

Library Committee and Sub-Committee

The Library Committee met in October and discussed at some length several matters of library policy. The Library Sub-Committee met eight times during the year to advise the Librarian on operational problems. The personnel of the latter committee changed; Professors Thornton and Govier completed their term of office and were replaced by Professors Brodie and Parr. Late in the year Dr. Johns, who had for many years been a valuable member, and for the past year chairman, of the Sub-Committee, resigned after his appointment as chief administrative officer of the university.

Order Department

The Order Department, which is responsible for the purchase and preliminary processing of all materials coming into the library system, ordered 11,821 volumes, an increase of 2,233 volumes over 1957-58. Miss Lilian Leversedge reports that the total number of volumes received, including gifts, was 12,249; which represents an increase of 11% over the previous year. Perhaps a better indication of the acceleration in acquisitions is to compare it with the figure of two years ago when the department processed about 8,000 new volumes.

The work load in this department was very heavy, and when by late summer it was apparent that the flood of book requisitions could be expected to continue throughout the year, a fourth member was added to the staff. Multiple order forms, first introduced in April, eliminated some typing routines and thus probably saved the staff from being completely overwhelmed.

Subscriptions were placed for 1571 periodicals, 160 of them for the first time. One new periodical service cost \$450, while another was priced at \$150. The department searched and obtained 680 issues of 192 periodical titles, thus making it possible to bind broken volumes. In its efforts to round out runs of periodicals the library ordered 402 back volumes of 55 titles.

The total expenditure for books and periodicals was slightly under \$83,000, an increase of 12% over the expenditure for 1957-58. The reserve fund, from which many expensive special purchases of library materials were made over the years, was finally exhausted.

Cataloguing Department

The department geared its routines to handle the great increase in acquisitions to be catalogued, and in addition cleaned up some small collections of arrearage such as the Rutherford Canadian Collection. Mr. Donald Baird reports the accomplishments of his department statistically as 14,938 volumes catalogued, 13,188 books accessioned, 15,200 books lettered, and 83,374 cards typed. The total of volumes catalogued represents a staggering increase in output—28% more than the previous year. During the summer months the

department participated in the reclassification project currently in progress in Calgary.

The staff of three classifiers and three clericals was augmented during the year by the appointment of an additional clerical. The department was short one classifier during the first two and a half months of the year.

The installation of a continuous fluorescent light fixture above the master catalogue has eliminated eye strain for library staff and clientele when consulting the card trays. The temporary removal of the Buddha from the top of the catalogue during the installation brought about a clamour for his reinstatement from a group of students calling themselves the "Seekers of Light, the Sons of Gautama".

Reference Department

In the fulfilment of its primary function of giving library users guidance in the use of those keys to information—indexes, abstracts, bibliographies, and reference volumes such as encyclopedias—Miss Dorothy Hamilton and her staff are able to report that students are using these guides in larger numbers than ever before. Indeed, during library hours the index tables are in constant use. The reference service of the department included finding answers to 5,991 queries put by professors, students, and off-campus persons. About a quarter of these questions were for obscure information, entailing considerable research by the staff.

As stated earlier in this report, requests from teaching staff for inter-library loans more than doubled during the year. In addition to the 790 items borrowed or photostats secured, this library loaned 176 items to other libraries.

The circulation of books is only an incidental function of this department, but during the year 12,446 volumes were circulated, books of reference for use within the room, books from the special collections in the room circulated for home use.

With the expansion of the university's graduate program it is interesting to record that 73 theses were placed in our depository collection. Students and faculty consulted 333 items in the collection, while 41 requests were received from other institutions to borrow theses written at this university.

Now that the library is a partial depository for printed United Nations documents, the staff have at times been swamped with the processing of incoming documents. The publications received from United Nations and the Canadian and Alberta governments numbered 17,203 items.

The library's map collection, which has been built up over the last six years, now contains 14,720 sheet maps. This year 1,258 sheets were added. The processing of the maps continues with all maps classified and half of them catalogued. Each year more use is made of the collection.

The Periodical Reading Room houses 851 journals and 17 newspapers. Attendance remained constant, but circulation for home use dropped.

This year the library had 3,199 volumes bound as compared with 2,519 volumes in 1957-58. As the library receives larger numbers of periodicals and foreign books, the problem of delays in the binding of materials becomes more acute. The solution would seem to be for the library to operate its own bindery.

General Circulation Department

Miss Norma Freifield reports a busy year for her department, which is

in charge of the main delivery desk and stacks, browsing area, and the Reserve Reading Room. The circulation of books from the main desk was up 20% over last year, while in the Reserve Reading Room it was up 9%. The total number of books circulated from the two areas was 99,479. There was an increase in attendance in all areas, particularly in the stacks where attendance was one-third greater.

The circulation during Summer Session, 1958, was very heavy. Also, students enrolled in the Evening Division program borrowed 2,095 books from the Reserve Room during the session, a larger number than heretofore. In connection with the Evening Division program the department also sent out collections of books to those rural points where courses were offered. The number of extramural students using the library's parcel service dropped during the year; the department mailed out 493 volumes.

Law Library

This reading room, which serves the Faculty of Law, receives steady use by the students enrolled in the faculty, who spend a great deal of their time in the reading room. Attendance this year was 35,582, an increase of 9%. Circulation was 11,292, representing an increase of 50%. Since much of the collection consists of law reports which are not allowed to circulate out of the room, this increase in circulation is surprising. Mr. Denys Noden, the Law Librarian, explains that a large number of texts and monographs were added to the collection during the year, and that these have proved popular reading with students.

A total of 614 books, reports, statutes, and reference books were added to the collection.

Applied Science Reading Room

In the Applied Science Reading Room attendance reached the new peak of 85,202, which represents a 25% increase over the previous year. The circulation remained about the same as last year, but as all material is accessible to students for use in the room, the circulation figure is by no means an indication of the use of the collection.

Late in the year nine sections of double-faced wooden shelving were erected in the area to alleviate the shelving problem.

Mrs. Emma MacDonald continues to offer instruction to students enrolled in the faculties which use this reading room. The purpose of the instruction is to make students conversant with the literature of their disciplines. This bibliographic instruction has been much appreciated by teaching faculties and students.

Medical Reading Room

Miss Phyllis Russell continued in charge of this reading room, as Miss Giffen had obtained an extension of her leave of absence. The Medical Reading Room is open for the thirteen-hour day a month and a half longer at the beginning and end of the regular session than are other reading rooms in order to coincide with the longer term of the medical and dental faculties.

Instruction in the use of the reading room and its resources was given to classes of students at the beginning of the term.

The attendance in the Medical Reading Room for the year was 49,243, representing an increase of 18% over that for 1957-58. Circulation was also up with 19,563 books borrowed for home use and an additional 4,056 books

borrowed from the stack area for use within the reading room. The Medical Librarian reports a change in the type of material borrowed by medical students. It would seem that the students are encouraged to make case reports based on searches through indexes and periodicals. Consequently the circulation of bound and unbound journals has increased by 46%.

The medical staff and medical practitioners borrowed 6,288 items. Of these 115 volumes were sent to doctors residing outside of Edmonton.

Education Library

The Education Library is one of the busiest units of the library system. Miss Moira English reports that the year's total circulation of education books was 68,801 volumes, an increase in circulation of 16%. Attendance reached 75,817 which was an increase of 28%. The service load is subject to fluctuation from day to day and week to week during the term. With large education classes a single reading assignment can bring many students to the library in search of material.

Summer Session is the most hectic period of the year, when students make intensive use of the library for about four weeks. Last Summer Session 15,824 books were circulated.

The library has been attractively redecorated.

Calgary

The Calgary library is operated by a staff of three. The crowded condition in the library was alleviated late in the term when the Institute of Technology and Art moved its collection from the east end of the room, making an additional 420 square feet of space available. In October six three-foot sections of double-faced steel stacks were set up in the library. In addition some wooden shelving was added. By using every inch of available shelving it is expected the library can accommodate acquisitions until the move to new quarters a year hence.

The library added 1,232 volumes to its collection during the year. The total number of volumes is now nearly 22,000. The library subscribed to 35 new periodicals during the year, bringing the total number of periodical subscriptions up to 194.

The attendance was 66,245, an increase of 19% over the previous year. The circulation remained static at 27,000 volumes.

In preparation for the move to a new campus in 1960 the Calgary Library began reclassifying the collection in the summer of 1958. The decision to convert the classification to the Library of Congress scheme was taken in anticipation of the day when the library will contain a much greater store of books serving an expanded teaching program.

During the winter the Librarian, Miss Dorothy Ryder, drew up plans for the new library to be housed in the Administration and Education Building on the new campus.

Miscellaneous Activities

One cultural activity in the library of a non-reading nature is worthy of note, and that is the regular music programs held during the noon hour in the Music Listening Room. This year, under the enthusiastic supervision of Mrs. Marjorie Corah, daily attendance averaged over thirty.

and most appreciated portion of the programme. In this respect, considerable credit is due to Dr. D. L. C. Judge, who is the first Teaching Fellow in the the department.

The graduate teaching programme has continued to expand and is now in its second year. This programme consists of a variety of teaching sessions such as seminars, graduate lectures, small group ward teaching providing approximately seven to ten hours of graduate instruction per week in addition to the regularly constituted rounds within the department. Candidates for Certification and Fellowship examinations in the Royal College in their final year of preparation are subjected to written and oral examinations to determine their level of competence and to assess their fitness to proceed with further training.

We wish to express the gratitude of the Faculty to Mr. and Mrs. Arthur Craig for the generosity in providing funds to purchase a number of essential texts for the Division of Endocrinology and Metabolism.

Department of Obstetrics and Gynaecology

Chairman, Professor J. Ross Vant

This year has been a productive one in the Department of Obstetrics and Gynaecology. The department has acquired two full time members, Dr. T. R. Nelson, Associate Professor, geographic full time, and Dr. W. F. Ferguson, Assistant Professor, full time. Dr. E. G. Tess Trueman has joined the staff as Teaching Fellow in Obstetrics and Gynaecology. In addition, the department has three members of the Graduate Training programme, who are proceeding to Certification in the specialty.

There have been no significant changes in the undergraduate teaching programme, but the "living in" programmes at the Royal Alexandra, the Misericordia, and the General Hospitals, under the supervision of Dr. Ferguson, have been remarkably successful. With the additions to the full time staff, it has been found possible to increase the scope and intensity of the teaching conferences held with the Resident staff during the past year.

The Department of Paediatrics

Chairman, Professor J. K. Martin

Dr. Brenda Devlin was appointed to the staff of the hospital in May. Dr. Neil Duncan spent the first 3 months of the year working with Dr. R. Fraser and his group in the field of cardiovascular disease on a full-time basis. The industriousness of the resident staff—Doctors Watkins, Birkbeck, Gauk and Rivas, has been much appreciated and has contributed greatly to patient care. Dr. E. J. Turner, as full-time Teaching Fellow in Paediatrics, has helped considerably with the teaching, and is engaged on a research project. The staff as a whole have contributed to nurses' lectures at the student and graduate level. The Course in Premature Nursing Care has been repeated twice in collaboration with the Department of Obstetrics.

The Department of Physiology and Pharmacology

Chairman, Professor J. W. Pearce

The past year has seen a consolidation of previous expansion of graduate teaching and research activities in this department, with some extension of undergraduate teaching. The most noteworthy change in the latter has been the provision of a full year of laboratory exercises in Physiology 361, with the

weekly period being given in two sections. Dr. W. H. Cottle has been largely responsible for the re-organization involved, which included expanding and re-writing the manual. There has been a noticeable improvement in the student response to the laboratory course. The single lecture programme, given this year to all students of elementary Physiology including those of the School of Physiotherapy, has been contributed to by all staff members in Physiology.

An advanced laboratory course on the graduate level has been offered for the first time, organized by Dr. C. Heath. Two other didactic graduate courses have been given as well as a departmental seminar, and some students are being supervised in Physiology 502 or Pharmacology 501 projects. The department now provides 10 graduate courses and is accredited to offer training for the Ph.D. degree. There are five graduate students in the department proceeding to the M.Sc. degree and two students graduated last fall.

All members of the department are actively engaged in one or more research projects. The coming year should see the fruition of a number of interesting studies which have been diligently attacked.

During the past year Dr. E. O. Hohn has been on sabbatical leave at the Worcester Foundation of Clark University undertaking study and research in the field of steroid biochemistry. The very real assistance of all the part-time academic staff is again gratefully acknowledged, with special appreciation to Dr. Mervin K. Cottle, who has played an enthusiastic role in both graduate and undergraduate teaching as well as adding a neurophysiological facet to our research activities. The part-time staff has been increased by the addition of Mrs. C. Fuller, Mrs. C. Campbell, and Mrs. Joan Morrison. Two Teaching Fellows, Mr. J. V. Milligan and Miss Celia Yates, have been appointed during the past year.

The Department of Social and Preventive Medicine

Chairman, Professor S. Greenhill

The past year in this department has been devoted to re-organization and planning. This department's teaching programme is aimed at making the student aware of the interaction of preventive and curative medicine, and of the necessity for understanding the social, emotional, and economic factors underlying illness. It carries out this aim by providing medical undergraduates with experience in observing and managing the many factors, in addition to actual disease, which contribute to a patient's illness, and by providing the opportunity for the student to participate in research projects dealing with the broader aspects of health and disease.

In addition to a basic course in Public Health practice, students have been exposed to other topics in the broad field of social and preventive medicine—e.g. the changing pattern of disease, population trends and expansion, epidemiology of non-infectious disease, community health resources, occupational health, trends in morbidity, medical care programmes, and the like.

It is hoped that a family care or study programme may be implemented during the next academic year. This programme will introduce 3rd and 4th year students to the practice of comprehensive medicine. A team, made up of a 3rd and 4th year student, will be the "medical adviser" to a family or patient. During a two year period, a student will not only be exposed to episodic illness, but will become aware of the variety of factors that affect both health and disease.

Financial Assistance

Babysitting, student assistantship in the Rutherford and Education Libraries, and a few hours, now and then, in a drug store or a shop gave the extra financial assistance needed by a number of the students.

Extracurricular Activities

As expected, the number of these activities is growing rapidly, almost alarmingly, with the increase in student population, but the Scheduling Committee is handling major events with thoughtfulness and consideration and feels that when the new Physical Education Building is completed the problem of a time and place for each activity will not be nearly so great.

Dances, both informal and semi-formal, meetings of the Wauneita Society, of the recently-formed Student Wives' Club, gatherings with Mixed Chorus, and Sunday Musical Club Concerts were attended, in each case upon invitation.

The monthly meetings of the Panhellenic Society were attended in an advisory capacity and upon request of the fraternity women.

Meetings of the Graduating Class Committee held in the early spring, have been attended, also in an advisory capacity.

This year the concert of Mixed Chorus in Leduc was attended. Mrs. R. S. Eaton accompanied the group to Calgary and to Lacombe, and, when the Chorus goes on Spring Tour, April 30th to May 10th, she will again be with them.

The "Freshette Coffee Hours" continue to grow in numbers. This year about six hundred and ninety first-year women were invited in groups of twenty to twenty-five. The response to the invitations is still very good and the results all that one could wish.

Women Graduands

Women graduands in Engineering, Medicine, Dentistry, Pharmacy, Law, Commerce and in Honors B.A. and B.Sc. were entertained at tea in early March.

Faculty of Education

The monthly meetings of this faculty are still being attended at the request of the Dean.

The Infirmary and Hospital

As in the past, women students confined to the infirmary or to the University of Alberta Hospital were visited when possible.

Dr. Vant's Lectures

With the increase in the number of first-year women, Dr. Vant's lectures have outgrown the Education Auditorium so will be held this year in Convocation Hall. These lectures continue to be invaluable.

Recommendations

Recommendations for students seeking summer employment, permanent positions upon graduation or for scholarship applications, continue to take a great deal of office time during March and April.

Public Relations

During 1958-59 one broadcast over CKUA, addresses to high-school graduating classes, to high school students planning on continuing their studies, to church groups, business women's groups, Home and School Association, were given and, as well, several after-dinner speeches.

In Conclusion

No report of the Dean of Women would be complete without a word of appreciation for the good work done by the Executive of the Wauneita Society, whose President, Miss Ruth Buchanan and Secretary, Miss Anne Brodie, are worthy of very special commendation; of that done by the Students' Council, and the Executives of such groups as Musical Club, Mixed Chorus, Drama Society, Women's Athletic Association and Residence House Committees.

It is hard to evaluate the contribution of these groups to the entire student body.

Report of Professor A. J. Cook, Director of Student Advisory Service

With the rapid growth of the University, the past year saw serious consideration of administration and in particular of Student Advisory Services in the life and work of the University as a whole. The Faculty Committee on Student Advisory Services met during the summer of 1958 to review the status, function and staffing of the Services. The report of the Committee will serve as a valuable guide to the further development of Student Advisory Services in the busy years ahead.

Study Skills

The practice initiated two years ago of sending a letter to all new students immediately after the November tests was continued. The students were invited to participate in a series of study tutorials, one a week for three weeks. Over two hundred students responded. The appreciation of the students who attended was marked and the same plan will be used during the coming session. The students whose records were unsatisfactory at Christmas were invited to a single tutorial. These were held over a period of two weeks at the end of January.

The problem of transition from high school to university is one that needs greater study than it has received on the part of Canadian universities. We have begun to look into the possibility of using electronic equipment to enable us to make detailed analyses of the various factors affecting the success of the new student. There are, of course, other aspects of this problem which need not be detailed here. But we mean to make further exploration of this whole area.

Information for Prospective Students

The University is currently sponsoring a project which is being financed by the International Nickel Company of Canada to determine how better to inform the high school student in regard to the opportunities offered by the various Faculties and Schools of the University. A planning committee representative of the administration and including the members of the staff of Student Advisory Services is actively preparing for a Conference of High School Counsellors and University Representatives to be held June 20-24 on the University Campus. This Conference will give the Faculties and Schools an opportunity to present pertinent information about the University to the counsellors.

Student Aid

In September, 1958 the Provincial Cabinet set up a special committee to bring in recommendations which would insure that no deserving student in high schools of Alberta would be denied a university education because of

lack of financial resources. The University was represented on this Committee by the Assistant to the President, Mr. George Samuel and the Director.

The report of this Committee was submitted to the Cabinet in November, and as a result the Students Assistance Act has been revised and a broad programme of financial assistance has been initiated. One of the immediate results of this move is the appointment of a Student Aid Officer at the University. This will relieve the Director of responsibilities for student aid which have developed in the last several years.

The Services

It is worthy of note that the University Counselling and Placement Association meetings were held for the first time on the University Campus last June. Papers related to counselling were presented by Dean Douglas E. Smith who was one of the key note speakers for the Conference, by the Dean of Women, M. S. Simpson on residences, and by A. J. B. Hough who gave an interesting paper on predicting success of first year engineering students.

During the summer an exchange of staff was arranged with the University in Calgary with Miss Wilson taking over Dr. Woodsworth's work in Calgary for a week and vice-versa. This exchange proved very profitable to both Services.

Mr. Hough has continued with the Reading Training Programme for able students, and eighty students took advantage of this voluntary training.

The study of the provincial distribution of students writing Grade XII examinations and the numbers of such students entering the University has been continued by Miss Wilson, and has proved to be of great interest to the school superintendents. The Department of Geography has prepared excellent maps showing the distributions.

The career day program has again been extensive, some member of the Department being in the field through the period from late February until mid-May. Information for prospective students was furnished on two radio broadcasts called "Campus Preview" sent out over eight stations in April. Participation in another such program on CBX was arranged through the Supervisor of School Broadcasts.

Staff

The Director attended the Western Personnel Institute meetings in Pasadena in November; these were concerned with the look ahead at education and student personnel services.

As of April 1st, 1959 Associate Professor L. N. Wilson terminated her services with Student Advisory Services to assume full-time teaching duties in the Department of Psychology. She has been with Student Advisory Services since 1951 and had made a great contribution to the development of the Services. She will continue as a member of the Committee on Student Advisory Services. I am taking this opportunity to express my deep appreciation for the fine service she has rendered and for the wise counselling she has given hundreds of students.

Mr. D. C. Fair will receive his Master of Arts degree in Psychology at the Spring 1959 Convocation. His thesis concerns a study, from the view-point of counselling, of the California Personality Inventory.

It remains to acknowledge with pleasure the fine work of the counsellors here and in Calgary. I should like to record also my appreciation of the

spirit of understanding and co-operation shown by members of the Faculty and administration alike.

Report of Dr. J. F. Elliott, Director, Student Medical Services

The 1958-1959 term has been a very active one for the Student Medical Services. Increasing enrollment has resulted in a corresponding increase in medical examinations and treatment.

Dr. Adam Little has supervised the Infirmary services with his usual diligence. He has been ably assisted by Dr. A. M. Edwards. Two senior internes from the University Hospital have assisted with sick parades. Dr. M. M. Hutton has acted as consultant in Gynecology. Dr. K. Yonge and his staff have supplied psychiatric consultation services. Miss Revell and her staff have carried out their many duties in their usual capable manner.

Poliomyelitis vaccine has been available through Dr. M. Little of the City Health Department and many students have been immunized.

Tuberculin testing of freshman students has been continued with chest x-rays provided by Dr. Stephens and his staff at the Aberhart Hospital. B.C.G. vaccine has been given to Medical students and students in the School of Physiotherapy on their request.

The present Infirmary becomes more inadequate for efficient sick parade care as student population increases, and plans are being considered for a new Infirmary.

Statistics

	1958-59	1957-58
Doctors' Visits to the Infirmary	569	656
Dr. Elliott	20	83+ (Influenza)
Dr. Little	170	179
Dr. Edwards	163	179 (and Dr. Cantor)
Dr. Hutton	21	22
Interns	195	193
Doctors' Consultations	4,255	4,592
Daily Average	22	23
Visits to Infirmary Bed Patients by doctors	350	595
Daily Out-Patient Treatments and Consultations	15,146	Not including influenza epidemic patients. 15,903
Men	9,486	10,334
Women	5,660	5,569
Daily Average	55	59
Gynaecological patients treated	48	27
Psychiatric referrals	27	25

Summary of Infirmary Bed Patients

	No.	Hosp. Days	Avg. Stay Days	No.	Hosp. Days	Age. Stay Days
Men	83	257	3	112	366	3.2
Women	34	94	2.7	58	238	4.1
Total	117	351	2.8	170	604	3.6

Basal Metabolism Tests		32		33
Men	4		3	
Women	28		30	
Haemoglobin tests		56		43
White blood counts		16		20
Urinalysis		1,961		895
Cerumen removal		73		94
Penicillin—Patients treated		134		132
Doses given	467		444	
Autogenous Vaccine		9		—
B.C.G.				64
Betalin		2		2
Polio Vaccine—Persons		1,318		1,653
Doses given	1,721		2,512	
Prostigmine		1		—
Special Hay Fever Vaccine		6		8
Staph. Toxoid Vaccine		3		6
T.A.B.T. Vaccine		3		3
Tuberculin Tests		1,709		1,752
Smallpox Vaccinations		22		27

Students Treated in Hospitals

	Men	Women	Total	Men	Women	Total
University	64	28	92	59	17	76
Other	8	6	14	12	2	14
Total	72	34	106	71	19	90
University Hospital Days			745+			518+
Men		500+			374+	
Women		245+			144+	

Students' Medical Service Staff 1958-59

Director	Dr. J. F. Elliott
Infirmiry Physician	Dr. A. S. Little
Assistant Physician	Dr. A. M. Edwards
Gynaecologist	Dr. Margaret Hutton
Psychologists	Dr. K. Yonge
	Dr. G. D. Carson
	Dr. W. E. Sigurdson
	Dr. W. Forster
Internes	Dr. Hugh Stephens
	Dr. M. K. Katayama

Infirmiry Staff

Matron	Miss G. A. Revell, R.N.
Assistant	Mrs. J. H. Ward, R.N.
Relief Nurse	Mrs. Mary Corns, R.N. from Sept./58.
	Mrs. Ethel Taylor, R.N. April/58 only.
Nurses' Aid	Miss A. I. Folden
Cook	Mrs. Abigail Taylor
Housekeeper	Mrs. Emma Bird April only.
	Mrs. Dorothy Jones from Sept./58.

Report of Mr. Guy H. Vaughan, Radio Director

Broadcasting for the 1958-59 season was for the period October 1, 1958 to April 30, 1959, two weeks longer than the preceding year.

The same broadcasting hours as in the 1957-58 season were utilized, 6:45 to 8:00 p.m. Monday through Friday, and 8:00 to 9:00 p.m. on Saturdays. For the remainder of the year, programs of recorded music were broadcast one hour per day, six days per week.

The 30 Saturday evening music programs of the 1958-59 season were broadcast under the general title *My Saturday Evening Concert*. In this series, members of the University staff chose and commented on their programs, which elicited considerable interest.

Organ recitals which were broadcast twice monthly during 1957-58 were cut to one per month this year and were included in the regular Music Hour period instead of extending from 7:35 to 8:00 p.m. as previously. This was done in order to allow more time for talks, interviews etc.

In order to clear more consecutive time for the talks series, the Western Board of Music Recitals were also moved from the bi-monthly pattern of 1957-58 to a series of 12 weekly programs from January to March of 1959.

During the current season 122 15-minute programs of talks and interviews were aired. Of these regular series, *Science* had 39, *Social Science* 18, *Extension* 13, *Men and Letters* 22, and *Two on the Aisle* 21. The remainder were taken up with The University's Fiftieth Anniversary 2, *Education* 5, and *Your University* 2.

Highlights of the 39 Science programs, were various series like *The Information System of the Body*, 5 programs dealing with the Nerves, Eyes, Ears, Brain and the body's chemical processes—*The Nature of Crystals*, latest developments and methods in crystallography—*Fungi and Moulds*, their application today—*Pin-pointing Pollen*, the importance of Pollen in our daily lives—*Learning from the Stars*, information derived from a scientific study of the stars—*The Tar-sands Atomic Blast*, speculation as to whether the blast would take place—*Opportunities in Modern Mathematics*, the many practical applications and fields in Mathematics—and *Problems of To-day's Physiologist*, the latest developments in physiological research.

In the Social Science programs, the Departments of History and Philosophy were responsible for the following noteworthy series—*Heresy Behind the Iron Curtain*, 4 programs—*Western and Eastern Democracy—a Paradox*, 2 programs—and *Religion and Art*, 5 programs.

In the Literature series, *Men and Letters*, in addition to reviews of current books and reassessments of books of long-standing, various staff members gave their views on books which influenced their lives in the series, *Books That Have Influenced Me*.

The program, *Two on the Aisle*, inaugurated last year, and offering critical opinion of professional music and drama in Edmonton, as well as noteworthy current movies, continued to find a ready audience.

For the first time this year, a new radio study program conducted in 10 consecutive weekly talks by Professor Grant Davy, Associate Professor of Political Economy, was attempted. The series, under the general title, *World Politics*, was designed to give listeners an essential background to an understanding of international politics and relations. The series, arranged by the Department of Extension, brought a good response.

In connection with the University's Fiftieth Anniversary, two 15-minute panel discussions, one for the humanities and one for science, each embodying highlights of the past 50 years, brought favourable response.

In addition to the above, during the month of April 1959, five 15-minute programs (three individual talks and two panel discussions) arranged by the Faculty of Education, were broadcast.

As is customary each year, two 15-minute programs dealing with matters of interest to prospective students, were also broadcast. These programs, under the general title, *Your University*, were arranged and aired by staff members of the Students' Advisory Services and will be forwarded to other stations in Alberta for re-broadcast.

During the visit of the Learned Societies in 1958, eight 15-minute talks and interviews were taped by various members of the Society for use during the fall of the 1958-59 season.

In the summer of 1958 also, the Radio Director went to Banff to record talks and interviews at the Banff School of Fine Arts. Nine 15-minute tapes were obtained, including a resume of activities by Senator Donald Cameron, Director of the School, and three panel discussions by members of the Music, Ballet and Painting Divisions.

The experiment successfully launched during 1957-58 of repeating some of the University's best talks and interviews of the regular evening series at 11 o'clock each morning over CKUA, was continued this year with equally gratifying results, thanks to the generous cooperation of the management of CKUA. Thirty nine programs were rebroadcast this year.

Station CFCW, Camrose, accepted forty of the University's regular evening 15-minute talks for rebroadcast during the spring and summer months. CFGP, Grande Prairie, and CHAT, Medicine Hat, also rebroadcast the ten talks on World Politics by Professor Grant Davy.

The Student Radio Society, with an active membership of thirty-five, broadcast a varied program of music, interviews and campus news on Saturdays from 5:00 to 6:00 p.m. under the direction of President John Vandermeulen.

Arthur Newman gave good service as chief announcer of Radio Service, as did Jack Downey and Ronald Pollock, who completed the staff of announcer-operators.

In the matter of advertising, a new approach was attempted during the current season. Ten thousand pamphlets in the University colours and covering the over-all programming schedule were distributed to Edmonton homes. The pamphlets, in addition to general program information, gave the University Radio Service address and phone number, with a suggestion to join the University's regular mailing list for program schedules.

From October 1958 to the end of April 1959 about 3000 program schedules were sent out on our regular mailing list twice per month, except in December, when mailing is once per month.

Report of Professor R. S. Eaton, of the Western Board of Music in Alberta

1. Statistics (Candidates and Fees):

Candidates	February	May	June	Total	Fees	(May and June)
Practical	241	—	1190	1431	\$1873.75	(February)
Theoretical	382	518	—	900	6834.70	
				<u>2331</u>	<u>8708.45</u>	

This shows an increase of 395 candidates over 1957 and an increase in fees of \$745.92.

2. *Revenue from the Sale of Theory Papers* (December 1, 1957, to November 30, 1958)—\$101.72. This shows an increase of \$24.22.

3. *Centres*

(a) Practical—February, 1958: Banff, Calgary, Edmonton, Lethbridge, Red Deer and Sundre. June, 1958: Banff, Blairmore, Bonnyville, Bowden, Calgary, Castor, Chauvin, Dawson Creek, Drumheller, Eaglesham, Edmonton, Girouxville, Glendon, Grande Prairie, Hythe, Innisfail, Lethbridge, Medicine Hat, McLennan, Peace River, Pincher Creek, Ponoka, Red Deer, St. Paul, Spirit River, Wetaskiwin.

(b) Theoretical—February, 1958: 36 centres. May, 1958: 43 centres.

4. *Examiners for Practical Examinations*

February: Mr. Glenn Nelson, Vancouver; Mrs. H. D. Sherry, Saskatoon; Mrs. D. Langmo, Mr. R. M. Pounder, Mr. Edgar Williams and Professor A. B. Crighton, Edmonton.

June: Mr. Georges Lindsay, Mtl.; Miss Jean Broadfoot, Wpg.; Mr. Lucien Needham, Wpg.; Mr. Smyth Humphreys, Vancouver; Mr. Lawrence Cluderay, Vancouver; Mr. Alan Smith, Miss Sandra Munn and Mr. Leonard Leacock of Calgary; Mrs. D. Langmo, Mrs. L. Upright, Mr. G. K. Greene and Mr. Robert Pounder of Edmonton.

5. *Diplomas Granted*

Spring Convocation—A. Mus. (Piano): Almo Eagleson, Lois Callaway, Marjorie McEwen, Evelyn Mondea and Evelyn Heath.

Fall Convocation—L. Mus. (Piano): Constance Channon Douglass. A. Mus. (Piano): Betty Lou Williams, Lynne Newcombe and Doris Munro.

6. *Broadcasting* (from October, 1957, to April, 1958)

The series of twice-monthly broadcasts by well-known teachers and musicians, illustrating the Western Board syllabus, commenced on October 17th with a violin recital by Marguerite Marzantowicz, accompanied by Arthur Crighton. This was followed on the 31st by a viola program given by Dorothea Langmo, accompanied by M. Marzantowicz.

In November, Mrs. Beulah Doney, pianist, and Miss Catherine Wendol, soprano, presented programs, with Robert Pounder accompanying Miss Wendol. There was only one recital in December, a trumpet broadcast given by Kenneth Hopkins, accompanied by Arthur Crighton.

Mrs. Jocelyn Pritchard, pianist, and Edgar Williams, violinist, gave the January recitals, Mr. Williams being accompanied by Arthur Crighton. In February, Miss Anne Burrows, pianist, and Bruce Pinkney, violinist, accompanied by Arthur Crighton, presented programs.

The March recitals were given by two pianists, Mrs. Lillian Upright and Miss Doreen Flesher and the first April concert was by another pianist, Miss Hope Hattersley. Ernest Dalwood ended the broadcast year with a fine clarinet recital, accompanied by Arthur Crighton.

7. *Recitals*

Again in 1958, five recitals of Western Board award winners were held throughout Alberta, the first being held in Red Deer, November 14. This was

followed by recitals in Calgary, Lethbridge, Edmonton and the last in Grande Prairie, December 5th. To Grande Prairie, parties travelled from as far away as Berwyn, usually returning home very late that night. The quality of performance by the young musicians at these concerts was most commendable particularly in Edmonton. Attendance was good and the audiences most enthusiastic. An added attraction in Red Deer was a group of pieces given by the new member of the Music Division, Thomas Rolston, violinist, with his wife, Isobel Moore, pianist. The following were guest artists: Dennis Ball of Edmonton—in Red Deer; Gary Hickmott of Edmonton—in Calgary; Betty Lou Williams of Calgary—in Lethbridge; Constance Douglass of Calgary—in Edmonton; and Lynne Newcombe of Edmonton—in Grande Prairie.

8. *Scholarships, Bursaries, Prizes and Medals*

The awards offered again in 1958 again totalled almost \$5,000.00. Donors in Alberta were the principal givers but the generous scholarship for strings, tuition at Peabody Conservatory in Baltimore, was again offered and again no candidate in any of the three provinces qualified. A few small prizes in the Peace River area were not awarded because conditions were not fulfilled.

New Awards

Three new awards were offered for the first time this year; the Northern Concert Society of Grande Prairie gave a \$25.00 bursary and Mrs. Flore Shaw of Berwyn began a bursary of \$25.00 yearly, offered to candidates living north of the Peace River. The Lady Laurier Club of Dawson Creek, B.C. also offered prizes totalling \$25.00, of which two were awarded.

Report of Lt.-Col. J. H. Whyte, Commanding Officer,

The University of Alberta Contingent, Canadian Officers Training Corps.

During the academic year 1958-59 the Officers of the Contingent were Lt.-Col. J. H. Whyte, Major W. C. Wonders, Captain H. R. Hawes and Captain J. R. Murray. The Honorary Colonel was Col. H. A. Dyde, OBE, MC, QC.

On the 16th May, 1958, Lt. Hawes was promoted to Captain. On 1st Oct., 1958 Major Wonders resigned and on 20th Nov., 1958 Captain Murray was taken on strength.

The Resident Staff Officer was withdrawn and replaced by a Tri-Service Resident Staff Officer.

According to the terms of reference the Tri-Service Resident Staff Officer was not to take part in the administration and training of this Unit, but training support was given by Western Command Headquarters.

During the summer of 1958, 34 Second Lieutenants and Officer Cadets took the Practical Training Phase. Two members of the Contingent were selected to train in Germany with 4th Canadian Infantry Brigade Group.

A first year enrolment quota of 14 was established by Army Headquarters. Seven first year cadets were actually enrolled. In addition three first year cadets of the Regular Officer Training Plan and two Subsidized Officers started their training with the Contingent.

There was no change in the Theoretical Training this year.

The Contingent participated in the following University activities: Jubilee Week and Remembrance Day Service. Social events held were the Tri-Service Mixer Dance, the Tri-Service Ball and the Annual Mess Dinner.

Despite the small intake of recruits, with the help of Headquarters Western Command we were able to have a successful Theoretical Training Phase.

**Report of W/C B. E. Riedel, Commanding Officer,
University of Alberta Squadron, R.C.A.F.**

The cadets of the Squadron serving with the Air Force during the summer of 1958 numbered 71. Cadets in their first year attended a six week indoctrination school at the Reserve Officers School, St. Jean, P.Q., before being posted to various Air Force stations and schools. Four Flight Cadets were posted to bases in Europe for the summer of 1958.

Certain changes in the regular force support occurred this year. The Resident Staff Officer and the Clerk were removed from the Squadron strength. Support was provided by R.C.A.F. Station Namao, a University Squadron Support Officer and University Squadron Clerical Assistant being appointed. The personnel was unchanged since the previous RSO and Clerk were appointed to the new positions. The Staff of reserve officers remained as before; S/L Blackley, F/L Common, and F/L Anton at the University of Alberta in Calgary.

The support arrangement was reasonably adequate but represents an unfortunate change from the previous system which was eminently successful.

Recruiting was quite active this year. Ten Flight Cadets pre-selected by the R.C.A.F. for the Regular Officer Training Plan entered Engineering and Science courses at University in September 1958. In addition seven cadets were enrolled under this plan by the squadron during the University term. Such an enrolment during the University year represents a significant contribution to the needs of the R.C.A.F. Further, a transfer from the University Reserve Training Plan to the ROTP was made by two cadets. Fourteen cadets were enrolled in the URTP, including three girls. The squadron strength is now one hundred and nine cadets in training, five staff officers and a part-time Regular Force officer and clerk.

Nine cadets completed their training and were promoted to the rank of Pilot Officer.

Eight cadets will begin a career in the R.C.A.F. on graduation in May, including two pilots, two observers, three technical officers and one medical officer.

The winter training program was carried out on Wednesday evenings in the University Gymnasium and amounted to sixty-four hours. In addition to the regular series of lectures and films, a squadron sports evening was held and rifle shooting competitions were carried out.

Two mess dinners were held. The fall mess dinner was limited to second, third and fourth year cadets and was in the form of an achievement night. The spring mess dinner included all members of the squadron including the Calgary members. It was a training night for the first year cadets and felt to be highly successful.

An innovation this year was a Ceremony of Inspection held in the University Gymnasium on Thursday evening, March 12th. The President of the University, Dr. Walter Johns, inspected the Squadron, took the salute, and presented Canadian Forces' Decorations to three Flight Cadets. Group Captain W. M. Smith presented awards to the best cadets in the second and third year. Relatives of all the cadets were invited to witness the ceremony and the Training Command Band under the direction of F/L Friberg was in attendance. A briefing was presented by F/C Thompson to the inspecting officers, and a coffee party for the Squadron and guests was held in the Wauneita Lounge of the Students Union Building following the parade.

It is felt that this ceremony served to stimulate enthusiasm and interest on the part of the Flight Cadets themselves, the student body generally, as well as the visitors. It is anticipated that this will become an annual event.

Additional events of the year were a Tri-Service Smoker at H.M.C.S. Nonsuch, the "Military Mixer" dance held in the University Gymnasium, the Tri-Service Ball held at Western Command this year, and the annual band concert featuring the Training Command Band.

F/C Mary Galbraith was presented with the award for exception contributions judged on a Tri-Service basis. The award was presented by Lt. Col. Whyte.

Air Commodore J. B. Harvey, Senior Personnel Staff Officer, Training Command was invited to speak to the Faculty Club.

The Reserve Officers' School for first year male cadets will be held at College Militaire Royal, St. Jean, P.Q. during May and June 1959. Female cadets will attend a similar school at Centralia, Ontario.

Four senior cadets have been posted overseas for the summer. All other Flight Cadets will serve at R.C.A.F. Stations throughout Canada.

W/C B. E. Riedel, S/L A. B. Crighton, F/L F. D. Blackley and F/L F. R. Anton will be on staff at the St. Jean school.

Report of Lt./Cdr. R. S. Van Alstine, R.C.N.(R.), Commanding Officer, University Naval Training Division

The University Naval Training Division commenced its winter activity on the University of Alberta with an intensive recruiting campaign during late September and October. In all there were fourteen applications for UNTD; of which five were finally brought in with the confirmed rank of cadet R.C.N.(R.).

For the first time, this past year saw active interest by the Naval Service in the field of recruiting University Students for the Regular Officers' Training Plan. Two R.C.N. Commanders visited the campus to advance the plan to the students. The visit in the fall was quite successful; however, medical unfitness took a large toll. We have had three ex-UNTD's transfer to the permanent force since September of 1958, and one ROTP applicant has been provisionally accepted (pending results of his final examinations this spring).

For the first time this year we have two former men of the ranks attending the University of Alberta as Naval Cadets under the terms of the College Training Plan. They are both graduates of the R.C.N. Preparatory School at H.M.C.S. Naden. The complement is as follows: Officers, 5; Cadets, R.C.N., 3; Cadets, R.C.N.(R.), 17.

Training was organized before the commencement of the university year and a successful programme was completed on the 30th of March, 1959. There were no failures in any of the examination courses.

In October, 1958, a new and comprehensive set of standing orders were completed, to govern the activities, training and discipline of Naval Cadets borne in H.M.C.S. Nonsuch.

During the course of the winter extra activities included:

1. Tactical Air Command Band Concert.
2. Address by Chief of Naval Staff.
3. Two Gunroom Parties.
4. Tri Service Military Ball.
5. Tri Service Military Smoker.

The cadets have devoted a great deal of their leisure time to decorating the new Gunroom Mess. This Mess should be completed by September of 1959.

Nineteen of the twenty cadets will be undergoing Naval Training during the summer months at H.M.C.S. Stadacona, H.M.C.S. Naden and at Sea. All officers on the training staff will similarly be performing Naval Training during some part of the summer.

Report of Mr. D. D. Campbell, Director of the Department of Extension

I have the honor to submit the forty-sixth annual report on the extension activities of the University for the year ending March 31, 1959.

This report should properly be prefaced with a reference to the contribution made in the University's extension work by all members of the staff. Records of the 193 members reporting show the preparation of 2,000 public lectures or demonstrations to audiences of 101,000 and 149 radio or TV talks. These figures, the many hours spent in the preparation of bulletins, etc., time freely given in consultation in many public functions, suggest an active and valuable University-community partnership.

Short Courses, Evening Classes and Conferences

The evening class, short course and conference program of the University is of course one of the first responsibilities in the Extension program. During the year under review, 255 courses, classes, conferences and workshops were arranged in forty-nine different centres throughout the year, with an aggregate attendance of 7,680.

There is, of course, and must be, a great diversity in the variety of subject, method and arrangement but on the average, the typical class was attended by 32 people and was of a duration of 35 hours. The program of non-credit evening classes has been expanded as planned in the main centres including Edmonton, Red Deer, Calgary, Medicine Hat and Lethbridge, in most instances with the guidance and assistance of an interested local committee. As will be noticed from Table I, the evening class series includes such subjects as Law for the Layman, Aging in a Modern World, An Introduction to Astronomy, Office Management, Fundamentals of Horticulture, Church History, Oilfield Practice, Essentials of Written English, Effective Reading and Financial Statements and Investments.

During the year, members of the staff have been active in the Alberta Adult Education Conference, an informal working group. The Department of Extension has taken on a main responsibility for the organization of an annual province-wide two day meeting to which are invited national and international authorities in the field of adult education, and as well, regional conferences at which mutual problems are discussed. During the year under review, the Second Annual Conference had as its guest, Dr. Abbott Kaplan, a foremost authority in the field in the United States. Regional conferences in Lethbridge, Calgary and Red Deer were attended by Dr. J. Roby Kidd, Director of the Canadian Association for Adult Education and Gordon Campbell, Director of the Division of Adult Education, Province of Saskatchewan.

At the request of faculty members and representatives of provincial organizations, several new additions were made to the short course program. These included courses in Photogrammetry and Air Photo Analysis, which were directed towards graduate engineers and geologists. The instructors in each case were Professor A. J. McNair, Head of the Surveying Department at

Cornell University and Dr. J. D. Mollard of J. D. Mollard and Associates Ltd., Regina, Saskatchewan, both outstanding figures in this field. A new course, Estate Planning, was well received by members of the Edmonton public. A good deal of assistance in the planning and arrangements for this project was given by members of the Income Tax Bureau, Trust and Insurance Companies, lawyers and others. Among the courses for nurses this year was the Institute for Operating Room Nurses, instructed by Miss Mary Schwendeman, an authority in the field from New York. At the request of the Alberta Motor Transport Association and with the guidance of an advisory committee drawn from the industry, a new course, Motor Fleet Management, was arranged. Instruction in this course was given by Professors Shelby Gallien and D. A. Weaver from Purdue University. By way of experiment, extension courses through radio and television were arranged this year. Professor Grant Davy, of the University's Department of Political Economy prepared a series of ten radio broadcasts, listeners to which were invited to apply for reading materials and permitted to pose questions to the lecturer. The Agricultural Secretary was responsible for the coordination and preparation of an informal series of television presentations in gardening. The potential of television in adult education is enormous, and this Department looks forward to exploring similar possibilities in the future.

An extensive series of substantial courses of training in accounting and related subjects were offered by the University through the Departments of Extension and Accounting in conjunction with the Society of Industrial and Cost Accountants of Alberta. Both the need of students for training in this field and broader recognition of the designation 'R.I.A.' has been responsible for a very rapid growth in the number of these classes. During the year, twenty-two classes in Accounting, Advanced Cost Accounting, Fundamentals of Cost Accounting, Industrial Legislation and Industrial Organization and Management were offered in Edmonton and Calgary. A total of 761 students were enrolled in this series.

A significant addition to the University's Extension program has been the development of a series of longer-term courses leading to a certificate. These include Social Welfare which is currently being offered in Edmonton and Calgary to three classes aggregating 286 persons. The course involves five main subject areas—Introduction to Social Work, Human Growth and Personality Development, Interviewing Methods, Welfare Practice and Welfare Resources and the Community. Instruction is provided by practising professional social workers, members of the staff of this University and members of the staff of the University of British Columbia. The Certificate Course in Real Estate is also a three-year program based on correspondence material made available jointly by the Canadian Institute of Realtors and the University of Toronto. It involves a comprehensive study of areas of importance to the realtor including law, brokerage, insurance, accounting, economics and office management. The three-year long Certificate courses in Municipal Administration and Assessment, which have enrolled 259 students—Secretary-Treasurers, provincial government employees, assessing officers and interested rural council members, are outlined in another section of the report. At the request of the Faculty of Medicine and the Alberta Red Cross, the Department has worked in cooperation with the latter organizations in arranging an intensive year-long certificate course in Blood Grouping, Crossmatching and Associated Techniques.

As one might expect, members of the Department as individuals and the

Department as a whole have been involved with a variety of other activities. Many of these additional responsibilities are time consuming and demanding of the staff outside of regular office hours. They include major assistance to the Friends of the Ballet, a local committee responsible for sponsorship of the Royal Winnipeg Ballet and the National Ballet Companies, a series of lecture recitals by capable musicians who would not normally appear in recital in Edmonton, lecture series in the area of world affairs given this year by Georg Schwartzberger and Floyd Schmoie. In cooperation with the I.O.D.E. and the Hazel Robinson Memorial Committee, the Department undertook the administrative responsibility for three creative writing competitions. The winners of these competitions receive scholarships to the University's Banff School of Fine Arts. Together with the Summer School, the Department of Extension sponsored the Banff School of Fine Arts travelling ballet and opera company. In addition to these events, members of the staff assisted many community organizations, including the Home and School, the Farmers' Union of Alberta, the Indian Affairs Branch of the Department of Citizenship and Immigration, and the Edmonton Citizenship Council in the planning and conduct of various projects.

Agricultural Extension

Leadership Training

One of the Department's important responsibilities in agricultural extension lies in the field of leadership training. During the year, projects in this area have included 'Committee Workshops' which are brief community conferences dealing with community organizational problems, the Annual Farm Young People's Week which this year gave an opportunity to rural young people to visit the University and meet the staff, the Leadership Techniques short course for young men and women between the ages of twenty-three and thirty-five, now in its ninth year, the Rural Leadership Conference to which the farm organizations send their organization's senior members and the Western Canadian Farm Leaders' Conference, a restricted meeting of twenty-five heads of western Canadian farm organizations, organized to provide a forum for discussion of problems relating to their organization in the field of agricultural economics, rural sociology and human relations.

Clearly, it is difficult effectively to measure the contribution made by these meetings at such a variety of levels since their impact is in terms not only of improved personal skills but also in terms of changed attitudes. There is evidence, however, that they have far-reaching effects on farm life. One notes in passing the enthusiasm of the students themselves, the willingness of the farm organizations to provide generous financial support and the interest displayed by farm people in general in the opportunity of attending the various courses and conferences.

Publications

Through the Agricultural Publications and Extension Committee, several major publications were issued during the year. These were: 'Small Fruit Growing in Alberta', '1958 Annual Feeder's Day', 'Cattle Finishing in Alberta', 'Grey Wooded Soils and Their Management', and the '1959 Press Bulletin'. Arrangements were made to distribute 'The Prairie Garden' magazine produced by the Winnipeg Horticultural Society. There has been a noticeable improvement in the attractiveness of the format of agricultural publications.

A monthly circular entitled 'A Selected List of Recent Agricultural Publications' has been mailed to a group of some 60 persons since January 1959. The

purpose of this circular is to keep interested persons informed of the latest available agricultural publications in Canada and the United States.

This office plays an important role as a central agency in the provision of agricultural information. During the year, 1,016 requests and inquiries were received and dealt with. The number of publications distributed in reply to requests and inquiries totaled 1,830; 12,606 were distributed through District Agriculturalists and commercial companies; 7,000 copies of the Press Bulletin were dispatched through the Department of Plant Science and 10,000 copies of the Feeder's Day Bulletin were distributed by the Department of Animal Science.

Classes

To meet the ever increasing demands for horticultural information, a total of eight evening classes were arranged in Edmonton, Red Deer, Calgary and Lethbridge in the field of gardening and landscaping.

With the assistance of the Agricultural Secretary, the horticulturists in the city of Edmonton Parks Department and the Alberta Department of Agriculture jointly made arrangements with CFRN-TV for a series of thirteen television programs on gardening. Each of the programs is moderated by a staff member of the University's Department of Horticulture. This is the first television course to be arranged through the University.

During the year, the Agricultural Secretary has, either directly or indirectly, assisted many provincial organizations including the Westlock Fair, the Alberta Horticultural Advisory Committee, the Farm Forum Radio Council, Allied Florists and Growers Association, the Northern Alberta Turf Grass Association, the Alberta Safety Council, the Canadian National Institute of the Blind and the Royal Commission on Education.

Citizens' Forum

As in previous years, the weekly radio and television productions in the Citizens' Forum series of discussion programs aroused a widespread interest. This was particularly true of two series of broadcasts on Unemployment and on Education, that were offered over periods of three weeks in December and in February. This technique assisted groups in their discussions of these important topics, and undoubtedly enabled more of the relevant points at issue to be presented for their consideration. A total of 110 correspondents followed the programs week by week.

Radio Extension

This year's total of programs broadcast by CKUA from the Campus studio included 123 talks, 7 organ recitals, 12 Western Board recitals and 30 record programs in the popular series 'My Saturday Evening Concert'. Of special interest were the various series of science talks and the study discussion series of ten talks on World Politics that were offered through the Department of Extension. Thirty-nine talks given in the regular program were subsequently rebroadcast during morning transmissions.

Extension Library (See Table II)

Since 1913, the University of Alberta, through the Extension Library, has been offering library service by mail to residents of the province who do not have ready access to books in their own communities. As the province has grown, use made of the Library has increased steadily. For the year ending

March 31, 1929, total circulation of books was 33,488; for 1938-39 51,007, for 1948-49 68,644 and for 1958-59 152,510.

Detailed statistical information is given in the accompanying table. Total circulation for 1958-59 has increased by 29,710, or a little more than twenty-four per cent over the previous year's total of 122,700. This increase represents a steady rise in the use of adult books in the Open Shelf and Travelling Libraries and a very heavy increase in the use of children's books.

The circulation of 50,477 for Travelling Libraries is estimated from reports submitted by custodians. It is evident that some may not have recorded full use of the books and that this figure should in all probability be higher.

Again this year, the Library has not been able to keep up with the requests for children's books. There is a continuing waiting list of from forty to fifty schools waiting to receive travelling libraries (boxes of thirty-five to forty books that may be kept three months). On the Open Shelf, that is parcels sent out by mail to families as well, the requests for children's books have been so heavy that it has been necessary to restrict the number of books sent to each child. Every effort has been made to maintain adult services as usual, and where necessary, to give priority to adult requests. While one of the responsibilities of library service—and indeed, one of its opportunities—is to supplement the work of the schools in developing the reading tastes of children and young people and to encourage them to continue their education after school, it is necessary that school authorities give serious attention to providing adequate book stock and other materials for classroom work. It is to be hoped that school libraries throughout the province will improve rapidly and that the University's important adult education service will be relieved of demands for enterprise materials, etc.

Travelling Libraries were sent during the year to 240 different community groups—187 schools, 12 Home and School Associations, 7 summer camps, 4 mining camps and 30 clubs and other community groups. As usual, books were supplied for non-credit evening courses and for study groups in art, music and drama throughout the province. One woman wrote to tell about winning a first prize for handicrafts at the Canadian National Exhibition, her third success, and remarked "The Library books have been a great help". Members of a women's group in Red Deer asked for material on Canadian dramatists, and one later wrote: "We presented our joint effort to the University Women's Club here last evening and it was favorably received. We both appreciate ever so much the help you gave us—without which I'm sure I don't know where we would have obtained our information."

In general, books are sent only to areas of the province where little or no library service is available. Residents of Edmonton, Calgary, Lethbridge, Medicine Hat and Red Deer are not served directly, though any book in the collection is available to libraries in these cities through inter-library loan. Normally, books are not sent outside the province, but special exception has been made to allow service to the far north. Parcels of books are sent regularly to a few readers in Yellowknife, Fort McPherson and other northern points, and a few Travelling Library boxes have been sent to schools and other community groups in Yellowknife and Fort Smith. Books were also supplied for two leadership conferences at Banff, the Summer Session of the Banff School of Fine Arts and the Banff School of Business Administration. Book displays were organized at the Adult Education Conference in Banff, the Community Life Conference at Olds and during Farm Young People's Week and Varsity Guest Weekend on the University campus.

Reference questions received during the year totalled 1,610. In addition, a large number of routine inquiries were answered by letter. As usual, the questions received illustrate the wide range of interests of users of the Library. The first request of the year was for a history of witchcraft; the last for a history of cosmetics. There has been a considerable increase in inquiries about house plans, remodelling, interior decoration, house wiring, plumbing and heating. As usual, many requests have been received from high school students, adults taking correspondence or extramural courses, Women's Institutes and other groups seeking program material, for information on English literature, the United Nations and its agencies, NATO, Canada's role in international affairs, and many aspects of Canadian history and culture. Other readers are interested in architecture of the Greek theatre, Heidelberg man, dialectical materialism, simple cookery, prospecting for uranium, mescaline, old spinning wheels, cooking a boned goose, preserving buffalo skulls, aboriginal hairdress, hot-rods, musk-ox, the Canadian Bill of Rights, physiognomy, centipedes, and homework as a detriment to health.

The Library was very fortunate to be among those receiving a set of the "Encyclopedia Canadiana" presented by the Richardson Century Fund to commemorate the hundredth anniversary of James Richardson & Sons, Limited. Several readers have donated current books, and small gifts of money are frequently made. One elderly man sent \$5.00 with a note, "There isn't a doubt that the value I have received from the library far exceeds any money I have subscribed".

Again this year the pressure of work has been very heavy. Much remains in the way of opportunity to provide the means of lifelong learning to men and women in the more isolated areas and to assist them in making the best use of their leisure hours. But while the day to day operation of the library has consumed the prime time and effort, much is being accomplished and the library staff is heartened by readers' appreciation. One went so far as to address an inquiry to "Dear friends and guardian angels". About books, a young girl writes: "I have found many of them informative, some of them inspiring and all of them entertaining. As an avid reader with a lot of time on my hands, I honestly do not know what I'd do without them." From another reader: ". . . the books sent me are the source of much enjoyment. Reading, in the life of an old woman like me, takes a large place and I am grateful to you for helping to fill it".

The function of the Library in serving as a goodwill ambassador of the University is underlined in a letter from a housewife in Peace River when a parcel was delayed for a short time: "This waiting . . . and wondering has made us appreciate more than ever how much we enjoy your wonderful service . . . my husband and I are both graduates of the U. of A. . . . We find that in raising our family here, although we love our fine north country, we are a little short of cultural influences. Your wonderful packages arriving every month make the University something very real and beloved by our harum-scarums . . ." And from a reader near Spirit River: "We live a long way from the nearest town, and your fine library service is a god-send to those who, like us, are isolated".

Visual Instruction Division (See Table III)

Audio-visual materials have an important place in informal adult education in Alberta and as teaching aids, they play a useful role in both intramural and general adult classes. Members of the staff of the Visual Instruction Division

have given effective and expert service to community organizations and individuals during the year as evidenced by various notes and comments of appreciation.

As has been the experience elsewhere, both the method of using film and total film usage is affected substantially by television. There is evidence of much more careful selection and discriminating use of audio-visual materials. After an initial negative impact, television tends to stimulate the use of films. Circulation is somewhat larger than last year, with the total standing at 16,500 reels. Total audiences viewing films were slightly over one-half million persons.

There is a marked improvement in the quality of film material available and it is interesting to note that of the new films added to the library during the past year, fifty percent were in color.

Film strip circulation of 3,200 is somewhat higher than last year, while the use of slides has continued to decrease.

As in past years, the Visual Instruction Division has provided service to communities in a variety of ways: through the rental of projection equipment, catalogue revisions, provision of screenings, both on and off the campus and informal assistance. This year, blocks of films have been loaned both to the Edmonton Film Council and the Edmonton Area Film Federation on a long-term basis through an arrangement which maximizes the use of the library's film stock. Schools which are now building up their own libraries of film strips have taken advantage of the consulting service provided by the Division in the acquisition of suitable material.

It is a pleasure again to record the courtesies extended by the National Film Board and for the cordial and effective cooperative arrangements which have existed during the year.

Petroleum Industry Training Service

The Petroleum Industry Training Service, which is financially supported by the Canadian Petroleum Association, the Canadian Association of Oilwell Drilling Contractors and the Oil and Gas Conservation Board, has as its purpose the training of oil industry personnel. During the year under review, 1,009 employees attended 42 schools offered throughout the province and in Saskatchewan.

The schools are prepared under the guidance of a Production Training Committee and a Drilling Training Committee representing the sponsoring associations, and the organization is under the direct guidance from an Advisory Committee.

Altogether during the year, three members of the staff instructed a total of 426 lecture hours. Highlights among the courses were a Drilling Technology School, seminars for the Alberta and Central Canada Oil Scouts Association, the Alberta Landmen's Association, the Calgary Desk and Derrick Club, Calgary lawyers and the sponsoring of a school on Blowout Prevention presented by the Petroleum Extension Service, University of Texas.

Basis of the year's program, however, centered around the regular presentations of the 15 hour Battery Operations School, a 30 hour Drillers School, a 12 hour Supervisory Training School and several short courses on safety subjects. There was a steady and satisfactory response to all of this instruction, and despite a slight recession throughout the industry, the Petroleum Industry Training Service had a productive and well-supported year.

Fine Arts Division

Drama

Festivals are the show case of the amateur theatre and in continuing to guide and assist the Alberta Drama League in the organization of the Provincial One-Act Festival and the Alberta Regional Festival, the Extension Specialists give effective assistance to participating groups. The importance of these festivals to the development of theatre in Alberta is evident when it is considered that they are the only way in which theatre activity from various parts of the province can be displayed, compared and evaluated: Not only are they an effective method of building theatre audiences but through the instruction offered by competent adjudicators, both audiences and players broaden their knowledge. Audiences totalling approximately 6,000, as well as 225 players, and technicians, have participated in these festivals this year.

The Medicine Hat Civic Theatre, which, it should be noted, is a group which has consistently entered both festivals for the past six years, won first place honors at both festivals. Their continuity of support has done much to raise and maintain the festival standards. Special mention should be made of their Director, Mr. Henry Allergoth, who has made a decided contribution, both to his own community and the province as a whole.

The Extension Drama Specialist has conducted nine workshops and drama courses totalling 48 sessions during the year in Lethbridge, Olds, Bowden, Medicine Hat, Edmonton, Calgary and Eckville, with a total attendance of 101. In addition, a total of 28 separate adjudications, lectures and demonstrations were given in 17 centres with an attendance of 1,507. A ten-week course in Speech was arranged in the Evening Division classes in Calgary with Leona Flegal Paterson as instructor. In May, a Theatre Conference was arranged in cooperation with the Drama Division of the Department of Fine Arts at the Studio Theatre. The general theme of the Conference was the promoting of an interest in and encouragement of new playwrights. Guest lecturer was Professor Robert Gard of the Wisconsin Idea Theatre.

For a four-week period in May and June, an outstanding lecturer, Mr. Brian Way, playwright and director of the London Theatre for Children Company, was brought to Canada through the cooperation of the Canada Council, the Dominion Drama Festival, the Nova Scotia Department of Education, the University of British Columbia, various drama organizations in Manitoba and this Department. While in Alberta, Mr. Way gave special lectures in Red Deer and Calgary, instructed in two evening courses sponsored by the Department of Extension, demonstrated in the training program for playground leaders sponsored by the Recreation Department of Edmonton and provided introductory direction of his play "Pinocchio", which was performed in the fall by the Edmonton Recreation Department's Theatre for Children.

Along with this training program, the advisory service concerned with play choice, stage planning and general organization has been maintained.

Music

During the year, the emphasis on the choral program in Extension Music has been continued. Since this is undoubtedly the area of greatest music activity, and the one in most need of help, 11 classes of ten weeks duration were organized in rural areas and 370 people registered for 20 hours of instruction. Contact with classes of previous years was this year regained through the medium of the Festival of Choirs. In this project, the Extension Specialist in Music, assisted fourteen community choirs in preparing a program for pre-

sentation in a mass choral festival held in Edmonton at the conclusion of the term.

The Department was fortunate this year in recruiting four instructors of first-class ability, including Hugh Bancroft, Bridget Headley and Wayne Matkin, for a series of classes arranged in the south of the province including Vauxhall, Claresholm, Nanton, Champion, Arrowwood and Okotoks.

A Music Theory Workshop was conducted in Grande Prairie by Professor A. B. Crighton in which problems related to preparation of students for the Western Board of Music theory examinations were considered. In light of the response, other such workshops are being planned.

A series of lecture-recitals given by artists of ability not sponsored by the usual agencies was held under University auspices. A Beethoven program by Walter Schenkman, pianist of Greeley, Colorado, was presented in November. Boris Roubakine was heard on three consecutive Wednesday evenings in February and March of 1959 in a discussion and performance of the music of Schubert, Schumann, Frank, Faure and Chabrier. An outstanding event was the delightful lecture-recital given by Peter Pears, tenor, and Julian Bream, lute and guitar, both of England, in Convocation Hall in March. These, with the others, were outstanding musical events and the direction of our cultural growth cannot help but be influenced by the examples of musical artistry such as these. In this way is the musical public periodically reminded of the highest artistic standards in music.

Three classes in music were offered within the evening class program of the Department which included a survey of chamber music, conducted by Miss Ann Burrows, a new addition to the program, 'The Evolution of Jazz' carefully and professionally presented by Mr. T. Banks and Mr. R. Repka and a training course for church choir leaders conducted by Mr. Hugh Bancroft in Edmonton.

In addition to the assistance he has given the University Mixed Chorus, the Extension Specialist in Music has served in a number of capacities concerned with the promotion and direction of musical activities in Edmonton and the province as a whole. These have included membership in the Alberta Music Board, the Alberta Music Educators Association (as Secretary-Treasurer), the newly formed Jeunesses Musicales of Canada (as Executive member and Treasurer). On the invitation of the City of Edmonton Recreation Department, he directed a production of Menotti's "Amahl and the Night Visitors", a Christmas presentation for children.

Painting

Under the energetic supervision of the Extension Lecturer in Painting, a productive, instructional and educational program within the Community Art Classes has been carried on this year. While it is a source of satisfaction to see the good quality and vigor displayed in the paintings of these amateur students, what is perhaps more important is the opportunity afforded the student to express his horizons and develop his creative talents. Instruction was offered in 24 centres to 487 students. Instruction in these classes was given primarily by the Extension Specialist in Painting, assisted by Miss Janet Middleston, Mr. Leslie Graff, Miss Joan Byrne and Professor Allison Forbes.

As in past years, the instruction of the Extension Specialist or guest instructors, was alternated by classes held under the instruction of local supervisors.

Extensive use is made of prepared materials including slides, films and tape-recorded talks in these classes. In addition to reference texts, ample

reference reading is made available through the Extension Library. Several of the larger communities are being assisted in the provision of regular instruction to beginners. Local exhibitions were arranged at thirteen centres and five travelling exhibitions were made available to classes during the year. A special exhibition of twenty paintings of Community Art Class students was hung at the Canadian National Exhibition and two other sets of paintings from Community Art Class students have been dispatched to the Academy of Fine Arts in Munich, Germany, and to the College of Fine Arts, Missoula, Montana. The concluding items of the year's work were the Community Art Class Conferences held in Lethbridge and Edmonton respectively, attended by 115 members of the Community Art Classes as well as prominent Alberta artists and members of the University staff.

Public Administration Training Division

A significant new development in the University's Extension program has been the formation of a Public Administration Training Division. The establishment of this Division was in response to requests from municipal officers, including those in the field and in the Department of Municipal Affairs. The immediate purpose of the Division is to provide a broad training program to administrative officers and assessors.

Two, three-year-long certificate courses in Municipal Assessment and in Municipal Administration commenced in October, designed to provide a realistic and fundamental training program to beginners and refresher work for experienced assessors and municipal administrators.

An Advisory Committee, comprising representatives of the University, the Department of Municipal Affairs, the Association of Municipal District Secretary-Treasurers, the Union of Alberta Municipalities, the Alberta Association of Municipal Districts, the Association of Assessing Officers of Alberta and the Appraisal Institute of Canada, under the chairmanship of the Director of Extension, gives guidance to the program. Registration this year was limited to 132 in Assessment and 133 in the Administration course.

These training programs envisage three stages. In each of the three years of the two courses, twenty comprehensive lessons have been prepared by the lecturer in Public Administration and by other experts in the field, and these, together with appropriate reference texts, copies of provincial Acts and many other supplementary materials, are forwarded weekly to students. During the term, the Lecturer in Public Administration, or an expert in one of the fields under discussion, has met with the student body who are organized in fourteen seminar groups in Three Hills, Castor, Wainwright, St. Paul, Westlock, Edmonton (3 groups), Red Deer, Calgary (2 groups), Pincher Creek, Lethbridge, Medicine Hat, Grande Prairie and Peace River. The purpose of the seminar has been to provide an opportunity for the discussion of questions arising out of the prepared materials, elaboration and clarification of difficult points and a general orientation of the material. In this purpose, it has been remarkably successful and attendance at the seminars has been very high. While the 259 students have found the material demanding, the drop out rate has been negligible. Following the final seminar, two three-day conferences, one in the north of the province, and the other in the south, will be arranged to provide a final review for the student, following which each will write an examination on the year's material.

Grateful acknowledgment is made to the Department of Municipal Affairs which provided financial assistance to the training program, to the willing

officers of interested municipal organizations who gave freely of their time and to authorities in various fields who prepared a number of lessons.

Staff

As in the past, University Extension has counted heavily on the cooperation and assistance of farm, business, professional and other organizations. Due in large part to their cordial cooperation, a broad program of course offerings to the public has been possible this year. It is a special pleasure to record the interest and cooperation of members of the staff of the University in the presentation of the extension program.

Special mention should be made of the painstaking and conscientious effort by all members of the staff in General Extension, Visual Instruction Division, Public Administration, Petroleum Industry Training Service and the Extension Library. They have cheerfully and effectively carried a heavy load.

During the year under review, Miss Margaret Galloway of Johannesburg, South Africa, was appointed Assistant Librarian. Mr. Allan Des Champs, who was formerly associated with the Aluminum Company of Canada, joined the staff as Agricultural Secretary, succeeding Mr. Sylvan O. Hillerud who retired. Mr. Donald Bancroft was appointed Lecturer in the new Public Administration Training Division.

Conclusion

In contemplating the university's role in adult education, an American educator has suggested three main responsibilities. He cites first the provision of special instruction in special subjects within the purview of the university, framed in such a way that the adult wanting some insight into the arts or the humanities may get the help that will send him on his way. He sees as a second important function that of providing vocational or professional training—again in areas within the purview of the university—by way of increasing the effectiveness of adults who know what they want to do and do not have the skills to do it. And finally, he emphasizes the university's responsibility in providing educational programs designed to foster in adults those qualities which secondary schools, and, indeed, undergraduate studies may fail to develop.

Against these objectives should be measured our current extension program summarized in this report as a reminder of purpose, a yardstick of success and as a signpost for future effort.

Dr. Milton S. Eisenhower, President of Pennsylvania State University, has summed up the modern state university's responsibilities in this way,—“In my judgment . . . the obligation of the University extends to **all** the people of the state—to the people from whom we receive so much of our financial support—not just to those students who enrol formally as degree candidates. In short, I believe that our responsibility is state-wide, that education must be continuous rather than terminal, and that, therefore, we must not be afraid as we seek to serve our constituency, “to inhabit the walks of man”.

Table I—Short Courses, Classes, Conferences and Workshops Arranged and Organized by the Department of Extension

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
A. EVENING DIVISION					
1. Conversational French	Royal Astronomical Society	Calgary	Oct. 21-Dec. 15	14	21
2. Conversational French (Advanced)		Calgary	Oct. 15-Dec. 17	15	12
3. What to Listen for in Music		Calgary	Oct. 14-Dec. 16	15	27
4. An Introduction to Astronomy		Calgary	Oct. 14-Dec. 16	15	30
5. Office Management		Calgary	Oct. 14-Dec. 16	15	22
6. Russ an Language—Class 'A'		Calgary	Oct. 20-Jan. 19	24	18
7. Russian Language—Class 'B'		Calgary	Oct. 20-Jan. 26	24	18
8. Greek Art and Architecture		Calgary	Oct. 16-Dec. 18	15	9
9. Conversational French		Calgary	Jan. 19-Nov. 23	15	31
10. Spanish for Beginners—Class 'A'		Calgary	Jan. 21-Apr. 22	18	20
11. Spanish for Beginners—Class 'B'		Calgary	Jan. 21-Apr. 22	18	26
12. Russ an Language (Beginners)		Calgary	Jan. 19-Apr. 6	18	12
13. Russian Language (Senior Group 'A')		Calgary	Feb. 3-Apr. 7	20	8
14. Russian Language (Senior Group 'B')		Calgary	Jan. 26-Mar. 16	16	8
15. The Law in Action	National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n.	Calgary	Jan. 14-Mar. 18	15	39
16. The Frontiers of Science		Calgary	Jan. 20-Mar. 24	20	136
17. What to Listen for in Music		Calgary	Jan. 20-Mar. 24	15	10
18. Reading Improvement		Calgary	Jan. 12-Mar. 16	15	30
19. Job Instruction Training		Calgary	Jan. 13-Feb. 14	10	15
20. Job Relations Training		Calgary	Feb. 17-Mar. 17	10	18
21. Conference Method and Technique		Calgary	Mar. 24-May 12	16	21
22. Office Management		Calgary	Jan. 20-Mar. 24	20	24
23. Leadership Course in Parent Education		Calgary	Jan. 12-Mar. 30	24	9
24. Building or Buying Your Home	Calgary Calgary Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton Edmonton	Calgary	Feb. 4-Mar. 18	10	49
25. Fundamentals of Horticulture		Calgary	Jan. 29-Apr. 16	18	50
26. Ways of Mankind		Edmonton	Oct. 1-Dec. 10	16	25
27. Comparative Religion I		Edmonton	Jan. 12-Mar. 2	12	36
28. Church History		Edmonton	Jan. 14-Mar. 18	15	7
29. The Challenge of Communism		Edmonton	Oct. 31-Jan. 31	18	12
30. Conversational French—Class 'A'		Edmonton	Oct. 7-Feb. 24	30	23
31. Conversational French—Class 'B'		Edmonton	Oct. 7-Feb. 24	30	26
32. Conversational French (Senior)		Edmonton	Oct. 9-Feb. 26	30	15
33. Italian Conversation		Edmonton	Oct. 1-Dec. 17	18	39
34. Italian Conversation (Continuation)		Edmonton	Jan. 14-Apr. 1	12	6
35. Spanish for Beginners—Class 'A'		Edmonton	Oct. 27-Feb. 16	21	19
36. Spanish for Beginners—Class 'B'		Edmonton	Oct. 27-Feb. 16	21	19
37. Conversational German—Class 'A'		Edmonton	Jan. 14-Apr. 1	15	11
38. Conversational German—Class 'B'		Edmonton	Jan. 14-Apr. 1	15	28
39. Essentials of Written English	Financial Statements and Investments	Edmonton	Oct. 1-Feb. 18	25	42
40. Effective Reading		Edmonton	Oct. 1-Dec. 3	20	9
41. Financial Statements and Investments		Edmonton	Sep. 29-Dec. 1	16	28

42. Commercial Law	Edmonton	Oct. 1-Dec. 17	18	25
43. The Law in Action	Edmonton	Jan. 14-Apr. 1	18	40
44. The Frontiers of Physical Science	Edmonton	Sep. 30-Nov. 18	10	25
45. Introduction to Geology	Edmonton	Jan. 15-Apr. 2	18	46
46. The Land and Wealth of Alberta	Edmonton	Nov. 10-Dec. 15	15	13
47. General Oilfield Practices	Edmonton	Jan. 12-Mar. 16	20	133
48. Building or Buying Your Home	Edmonton	Jan. 12-Mar. 8	12	100
49. House Plants	Edmonton	Oct. 8-Nov. 12	9	35
50. Fundamentals of Gardening—Class 'A'	Edmonton	Jan. 14-Apr. 1	18	45
51. Fundamentals of Gardening—Class 'B'	Edmonton	Jan. 14-Apr. 1	18	45
52. Fundamentals of Gardening	Edmonton	Feb. 27-Apr. 24	18	29
53. Fundamentals of Gardening	Edmonton	Jan. 21-Apr. 8	18	39
54. The Art of Home Landscaping	Edmonton	Jan. 15-Apr. 2	18	29
55. Looking at Modern Painting	Edmonton	Sep. 30-Dec. 9	15	10
56. Introduction to Life Painting	Edmonton	Sep. 29-Mar. 16	40	14
57. Portrait Painting	Edmonton	Sep. 29-Mar. 16	40	15
58. Fundamentals of Drawing	Edmonton	Sep. 30-Mar. 3	40	32
59. Pictorial Composition	Edmonton	Oct. 1-Mar. 4	40	19
60. Advanced Life Painting	Edmonton	Oct. 1-Mar. 4	40	19
61. Fundamentals of Painting	Edmonton	Oct. 2-Mar. 5	40	40
62. Commercial Art	Edmonton	Oct. 2-Mar. 5	40	28
63. Pottery	Edmonton	Oct. 14-Mar. 17	60	12
64. Pottery (Advanced)	Edmonton	Oct. 16-Mar. 19	60	9
65. Modelling and Sculpture	Edmonton	Oct. 2-Mar. 5	40	11
66. A Survey of Chamber Music	Edmonton	Oct. 20-Dec. 15	12	19
67. The Evolution of Jazz	Edmonton	Jan. 12-Feb. 16	10	32
68. Cornerstones of Canadian Foreign Policy	Edmonton	Jan. 14-Feb. 18	9	16
69. The Government of Canada	Edmonton	Mar. 4-Apr. 1	8	14
70. Personality Development and Adjustment in Modern Society	Edmonton	Jan. 13-Mar. 31	18	26
71. Conversational Spanish	Lethbridge	Oct. 20-Feb. 15	20	12
72. Conversational Spanish	Lethbridge	Oct. 20-Feb. 15	20	14
73. Speech Improvement	Lethbridge	Oct. 20-Dec. 8	12	10
74. Comparative Religion	Lethbridge	Oct. 14-Dec. 16	15	15
75. Conversational French	Lethbridge	Oct. 14-Dec. 16	15	15
76. Conversational French (Advanced)	Lethbridge	Oct. 14-Dec. 16	15	12
77. Elementary German	Lethbridge	Oct. 14-Dec. 16	15	12
78. Introduction to Social Welfare	Lethbridge	Oct. 14-Dec. 16	15	12
79. Building or Buying Your Home	Lethbridge	Oct. 15-Dec. 17	15	30
80. History of Lethbridge	Lethbridge	Jan. 19-Mar. 2	12	18
81. Conversational German	Lethbridge	Jan. 20-Mar. 24	15	12
82. Conversational French (Senior)	Lethbridge	Jan. 13-Mar. 17	15	12
83. Conversational French (Senior)	Lethbridge	Jan. 13-Mar. 17	15	12
84. Law for the Layman	Lethbridge	Jan. 22-Mar. 26	15	20
85. Journalism	Lethbridge	Jan. 29-Mar. 26	15	16
86. Home Landscaping	Lethbridge	Jan. 19-Mar. 30	24	25
87. Law for the Layman	Medicine Hat	Oct. 8-Dec. 10	15	25
88. Music Appreciation	Medicine Hat	Oct. 7-Mar. 9	12	20

Table I—Continued

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
89. Recent Advances in Science	Medicine Hat Extension Committee and Professional Engineers	Medicine Hat	Nov. 3-Mar. 3	20	60
90. Introduction to Social Welfare	Medicine Hat Extension Committee	Medicine Hat	Jan. 15-Mar. 19	20	18
91. Introduction to Psychology		Red Deer	Feb. 5-Mar. 26	16	22
92. Gardening		Red Deer	Jan. 28-Mar. 4	9	24
93. Introduction to Social Work— Class 1, Part B.		Edmonton	Apr. 10-Jun. 26	24	27
94. Introduction to Social Work— Class 2, Part A.		Edmonton	Apr. 9-Jun. 25	24	36
95. Introduction to Social Work— Class 2, Part B.		Edmonton	Sep. 24-Nov. 20	24	28
96. Human Growth and Personality Development—Class 1		Edmonton	Oct. 13-Mar. 10	36	22
97. Human Growth and Personality Development—Class 2		Edmonton	Dec. 9-Apr. 10	36	35
98. Introduction to Social Work— Part A		Calgary	Apr. 1-Jun. 17	24	38
99. Introduction to Social Work— Part B		Calgary	Sep. 23-Nov. 19	24	45
100. Human Growth and Personality Development		Calgary	Dec. 4-Apr. 30	40	43
101. Introduction to Social Work— Part A		Lethbridge	Jan. 27-Apr. 14	24	12
102. Credit Union Organization and Management	Southeastern Chapter, Credit Union League of Alberta	Medicine Hat	Sep. 25-Sep. 27	6	41
103. Photogrammetry	Faculty of Engineering	Edmonton	Apr. 8-Apr. 12	30	45
B. RURAL, COMMUNITY AND AGRICULTURAL SHORT COURSES AND CONFERENCES					
104. Alberta Adult Education Conference	Alberta Adult Education Council	Banff	May 16-17	...	44
105. Farm Young People's Week	A.W.P., U.G.G., U.F.A., F.U.A., A.F.A.	Edmonton	Jun. 18-Jun. 27	60	161
106. Community Forum	Local Community Organizations	Olds	Aug. 18-Aug. 20	...	32
107. Leadership Techniques Short Course	A.W.P., U.G.G., F.U.A., A.W.I., A.C.W.A.	Banff	Oct. 27-Nov. 7	80	28
108. District Meeting	Alberta Adult Education Conference	Lethbridge	Nov. 11	...	24
109. District Meeting	Alberta Adult Education Conference	Calgary	Nov. 22	...	39
110. District Meeting	Alberta Adult Education Conference	Red Deer	Mar. 19	...	22
111. Community Workshop	Farmers' Union of Alberta	St. Paul	Feb. 21-Feb. 22	14	65
112. Rural Leadership Conference	A.W.P., U.G.G., F.U.A., A.W.I., A.F.A.	Banff	Mar. 2-Mar. 13	82	34
113. Western Canadian Farm Leaders' Conference	Western farm unions and Co-operatives	Banff	Mar. 23-Mar. 27	30	23
C. FINE ARTS EXTENSION CLASSES AND WORKSHOPS					
114. Summer Short Course	Lloydminster Art Club	Lloydminster	May 19-May 23	12	12
115. Summer Short Course	Medicine Hat Art Club	Medicine Hat	Jun. 9-Jun. 13	36	15
116. Community Art Class	Athabasca Art Club	Athabasca	Oct. '58-Apr. '59	24	20

117.	Community Art Class	Banff School Fine Arts	Banff	Oct. '58-Apr. '59	52	18
118.	Community Art Class	Evergreen Art Club	Bashaw	Oct. '58-Apr. '59	14	15
119.	Community Art Class	Brooks Art Club	Brooks	Oct. '58-Apr. '59	12	15
120.	Community Art Class	Camrose Art Club	Camrose	Oct. '58-Apr. '59	21	15
121.	Community Art Class	Castor Art Club	Castor	Oct. '58-Apr. '59	18	10
122.	Community Art Class	Drumheller Art Club	Drumheller	Oct. '58-Apr. '59	22	24
123.	Community Art Class	Edson Art Club	Edson	Oct. '58-Apr. '59	21	22
124.	Community Art Class	Ft. Saskatchewan Art Club	Ft. Saskatchewan	Oct. '58-Apr. '59	21	25
125.	Community Art Class	Gr. Pr. Craft Centre	Grande Prairie	Oct. '58-Apr. '59	6	9
126.	Community Art Class	Lacombe Art Club	Lacombe	Oct. '58-Apr. '59	24	18
127.	Community Art Class	Lethbridge Sketch Club	Lethbridge	Oct. '58-Apr. '59	40	50
128.	Community Art Class	Lloydminster Art Club	Lloydminster	Oct. '58-Apr. '59	24	20
129.	Community Art Class	Medicine Hat Art Club	Medicine Hat	Oct. '58-Apr. '59	35	27
130.	Community Art Class	Nanton Art Club	Nanton	Oct. '58-Apr. '59	28	30
131.	Community Art Class	Ponoka Art Club	Ponoka	Oct. '58-Apr. '59	21	18
132.	Community Art Class	Ralston Art Club	Ralston	Oct. '58-Apr. '59	28	15
133.	Community Art Class	Red Deer Art Club	Red Deer	Oct. '58-Apr. '59	28	12
134.	Community Art Class	Sedgewick Art Club	Sedgewick	Oct. '58-Apr. '59	15	12
135.	Community Art Class	Sylvan Lake Art Club	Sylvan Lake	Oct. '58-Apr. '59	25	30
136.	Community Art Class	Vermilion Art Club	Vermilion	Oct. '58-Apr. '59	21	20
137.	Community Art Class	Viking Art Club	Viking	Oct. '58-Apr. '59	18	15
138.	Community Art Class	Vulcan Art Club	Vulcan	Oct. '58-Apr. '59	14	8
139.	Community Art Class	Wetaskiwin Art Club	Wetaskiwin	Oct. '58-Apr. '59	14	12
140.	Looking at Modern Painting		Nanton	Jan. 12-Mar. 30	20	12
141.	Alberta Theatre Conference	Dept of Fine Arts	Edmonton	May 10	...	70
142.	Directing Conference	Calgary M.I.A.	Calgary	May 16-May 30	13	...
143.	Child Drama in Recreation	Recreation Department	Edmonton	May 26-May 29	16	85
144.	Direction	Jr. Hospital League	Edmonton	May 26-Jun. 15	20	25
145.	Child Drama Conference	Alberta Trustees' Ass'n.	Red Deer	May 30	30	30
146.	Child Drama		Edmonton	Jun. 2-Jun. 18	12	19
147.	Drama in Jr. and Sr. High Schools		Edmonton	Jun. 3-Jun. 19	12	7
148.	Drama Workshop		Edmonton	Oct. 8-Oct. 10	6	10
149.	Speech		Eckville	Oct. 13-Mar 17	18	12
150.	Acting		Calgary	Jan. 26-Mar. 23	18	10
151.	Acting		Bowden	Jan. 27-Feb. 24	9	17
152.	Acting		Medicine Hat	Jan. 28-Feb. 25	9	15
153.	Acting		Lethbridge	Jan. 30-Feb. 27	9	21
154.	Child Drama Workshop	Y.W.C.A.	Edmonton	Feb. 4-Feb. 25	6	15
155.	Choral Workshop	Local Community Organizations	Lethbridge	Jan. 12-Mar. 16	20	33
156.	Choral Workshop	Local Community Organizations	Arrowwood	Jan. 14-Mar. 18	20	50
157.	Choral Workshop	Local Community Organizations	Champion	Oct. 15-Dec. 17	20	26
158.	Choral Workshop	Local Community Organizations	Clareholm	Jan. 13-Mar. 17	20	35
159.	Choral Workshop	Local Community Organizations	Edmonton	Feb. 9-Mar. 23	14	45
160.	Choral Workshop	Local Community Organizations	Innisfail	Jan. 20-Mar. 24	20	40
161.	Choral Workshop	Local Community Organizations	Nanton	Oct. 14-Dec. 15	20	37
162.	Choral Workshop	Local Community Organizations	Nanton	Jan. 16-Mar. 20	20	24
163.	Choral Workshop	Local Community Organizations	Nanton	Oct. 17-Dec. 19	20	24
164.	Choral Workshop	Local Community Organizations	Okotoks	Oct. 17-Dec. 19	20	25
165.	Choral Workshop	Local Community Organizations	Stettler	Oct. 17-Dec. 19	20	25
166.	Choral Workshop	Local Community Organizations	Stony Plain	Jan. 20-Mar. 24	20	15
			Vauxhall	Jan. 13-Mar. 17	20	43

Table I—Continued

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
167. Theory Workshop	Dep't. of Fine Arts	Grande Prairie	Sep. 19-Sep. 20	12	15
168. Piano Master Class		Edmonton	Feb. 25-Mar. 11	6	80
D. BUSINESS, INDUSTRIAL AND PROFESSIONAL COURSES					
169. Airphoto Interpretation for Civil Engineers	Dep't. Civil Engineering	Edmonton	Feb. 9-Feb. 13	30	45
170. Seminar in English Linguistics	Dep't. of Citizenship and Immigration	Edmonton	Jul. 2-Aug. 14	150	6
171. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants	Calgary	Nov. 22-Jan. 24	24	37
172. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants	Edmonton	Nov. 22-Jan. 24	24	41
173. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants	Correspondence	Nov. 22-Jan. 24	24	17
174. Law in Action	Calgary Jr. Chamber of Commerce	Calgary	Oct. 1-Dec. 3	15	24
175. Effective Reading	Edmonton Jr. Chamber of Commerce	Edmonton	Oct. 20-Dec. 15	18	20
176. Supervisory Training	Edmonton Jr. Chamber of Commerce	Edmonton	Jan. 13-Mar. 24	20	24
177. Communication and Business Problems	Edmonton Branch, Engineering Institute of Canada	Edmonton	Oct. 20-Mar. 9	17	54
178. Credit Union Short Course	Edmonton Chapter C.U.L.	Edmonton	May 1-May 3	10	230
179. Municipal Administration	Dep't. of Municipal Affairs	Banff	Jun. 8-Jun. 11	15	75
180. Writing for Television		Edmonton	Sep. 15-Sep. 17	18	13
181. Writing for Television		Calgary	Sep. 18-Sep. 20	18	13
182. School Administration		Banff	Jun. 11-Jun. 14	16	139
183. Podiatrists' Course	Dep't. of Education, Alberta School Trustees' Association, Municipal Secretaries-Treasurers' Association	Edmonton	Oct. 6-Oct. 7	12	9
184. How to Invest Your Money	Edmonton Podiatry Association	Correspondence	Oct. 1-Mar. 31	30	106
185. Introduction to Leadership	Investment Dealers' Association	Edmonton	Nov. 3-Feb. 16	24	41
186. Motor Fleet Management	Council of Community Services	Edmonton	Nov. 17-Nov. 21	30	37
187. Prospecting	Alberta Motor Transport Association	Edmonton	Jan. 14-Mar. 2	26	55
	Alberta and Northwest Chamber of Mines, Canadian Institute of Mining and Metallurgy				
188. Planning Your Estate	Edmonton Trust Association, Canada Life Underwriters, Department of National Revenue, Faculty of Law	Edmonton	Jan. 14-Mar. 18	20	45
189. Managing Investments	Investment Dealers' Association	Edmonton	Jan. 27-Mar. 10	14	35
190. Managing Investments	School of Commerce	Calgary	Jan. 27-Mar. 10	14	104
191. Administrative and Financial Controls	Alberta Real Estate Ass'n.	Edmonton	Jan. 26-Apr. 27	28	15
192. Real Estate Principles and Practice	Alberta Real Estate Ass'n.	Calgary	Jan. 27-Apr. 28	28	71
193. Real Estate Principles and Practice	Alberta Ass'n. of Registered Nurses and School of Nursing	Edmonton	Jan. 29-Apr. 30	28	47
194. Institute for Operating Room Nurses	Alberta Ass'n. of Registered Nurses and School of Nursing	Edmonton	Feb. 23-Feb. 27	27	33
195. Institute for Operating Room Nurses	Alberta Ass'n. of Registered Nurses and School of Nursing	Calgary	Mar. 2-Mar. 6	27	32
196. Leadership Course for Indians	Dept. for Indian Affairs	St. Paul	Mar. 16-Mar. 20	20	16

197. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	34
198. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	34
199. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	37
200. Accounting II	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	33
201. Advanced Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 7-Mar. 24	40	26
202. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	32
203. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	43
204. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	38
205. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	41
206. Industrial Organization and Management	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 10-Mar. 27	40	17
207. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	36
208. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	44
209. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	47
210. Accounting II	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	26
211. Accounting II	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	28
212. Advanced Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	30
213. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	30
214. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	44
215. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	43
216. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	38
217. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	36
218. Industrial Organization and Management	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 10-Mar. 27	40	24
E. PETROLEUM INDUSTRY TRAINING SERVICE COURSES					
219. Trident Drillers Schools	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 7-Apr. 11	30	8
220. Drilling Technology School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 14-Apr. 18	30	26
221. Drilling Technology School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 21-Apr. 25	30	28

Table I—Continued

Short Courses, Class Conference or Workshop

	Co-sponsors	Location	Period	Hours	Attendance
222. Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 21-Apr. 25	30	10
223. Scout Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Western Canadian Oil	Calgary	Apr. 16-Apr. 18	21	20
224. Scout Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Western Canadian Oil	Regina	Jun. 18-Jun. 20	21	16
225. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Regina	Jun. 17-Jun. 20	12	11
226. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Jun. 25	2½	67
227. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Innisfail	Jun. 26	2½	57
228. Battery Operations School	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Jul. 8-Jul. 10	15	9
229. Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Sep. 22-Sep. 26	30	6
230. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Oct. 28-Nov. 25	15	28
231. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Oct. 29-Nov. 26	15	22
232. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Valley View	Sep. 29-Oct. 3	15	20
233. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Oct. 14-Oct. 17	12	8
234. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Weyburn, Sask.	Oct. 13-Oct. 17	15	18
235. Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Oct. 27-Oct. 31	30	17
236. Practical Oil Field Operations	C.P.A., C.A.O.D.C., O. & G.C.B. and Desk and Derrick Club	Calgary	Nov. 7-Dec. 12	12	24
237. Oil and Gas Lease (Law Seminar)	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Nov. 25-Dec. 5	12	20
238. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Nov. 25, 26-Dec. 2, 3	12	17
239. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Dec. 1-Dec. 4	12	17
240. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Fox Creek	Dec. 8	5	19
241. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Whitecourt	Dec. 9	5	13
242. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Swan Hills	Dec. 11	5	81
243. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Jan. 7, 13, 14, 20, 21	15	20
244. Blowout Prevention	C.P.A., C.A.O.D.C., O. & G.C.B. and Pet. Ex. U. of Texas	Calgary	Jan. 26-Jan. 27	12	33
245. Blowout Prevention	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Jan. 29-Jan. 30	12	30
246. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Pincher Creek	Feb. 2-Feb. 5	12	15
247. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Jan. 27-Feb. 3, 10, 13, 17	15	22
248. Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Breton	Jan. 28-Feb. 4, 6, 11, 18	15	19
249. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Feb. 17, 18, 24, 25	12	22
250. Alberta Landmen's Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Alberta Landmen's Association	Calgary	Mar. 2-Mar. 4	12	86
251. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Estevan, Sask.	Mar. 11	5	109
252. Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Devon Hills	Mar. 17	2½	15
253. Fire Control School	C.P.A., C.A.O.D.C., O. & G.C.B.	Swan Hills	Mar. 19	30	30
254. Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Mar. 17-Mar. 20	12	22
255. Fire Control School	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Mar. 24	5	25

7,680

TABLE II
STATISTICAL INFORMATION, EXTENSION LIBRARY

	1957-58	1958-59	Difference
<i>Open Shelf</i>			
	1957-58	1958-59	Difference
Adult books	56,815	64,525	7,710
Periodicals and pamphlets	1,954	1,413	—541
Children's books	20,404	35,544	15,140
	79,173	101,482	22,309
<i>Travelling Libraries</i>			
No. of Travelling Libraries sent out (35-40 books per box):			
	1957-58	1958-59	
Adult	103	115	
Mixed (adult and children's)	60	55	
Children's	382	425	
	545	595	
Circulation (Recorded outside the Library)	43,185	50,477	7,292
<i>Banff School of Fine Arts</i>	342	451	109
<i>Total Circulation</i>	122,700	152,410	29,710
<i>Reference questions</i>	1,481	1,610	129
<i>Number of books in collection</i>			
At April 1, 1958		47,465	
Accessions	4,529		
Withdrawals	2,335	2,194	
At March 31, 1959		46,659	
<i>Membership</i>			
Open Shelf—Number of active readers' cards (Each representing from one to eight persons)			6,134
Travelling Libraries—Number of community groups to whom libraries were sent			240

TABLE III
STATISTICAL INFORMATION, DIVISION OF VISUAL INSTRUCTION

<i>Number of Moving Picture Films in Library:</i>	
Silent, 8 mm. and 16 mm.	505
National Film Board Sound Films	925
Sponsored Sound Films	280
Sound Films, General	1,589
Total Films in Library	3,299
<i>Number of new films added to library during year (included in the above)</i>	89
<i>Number of Filmstrips in the library</i>	2,487
<i>Number of sets of 2 × 2 slides in library</i>	180

FILM CIRCULATION

	1958-59	1957-58	Comparison
Number of reels silent films sent out	891	721	+170
Number of reels sound film sent out	16,519	16,293	+226
Total sets of moving pictures sent out	3,980	3,997	-17
Total number of showings of films, sound and silent	5,266	5,253	+13
Total audience viewing films	504,739	467,132	+37,607
Number of times projection service supplied	201	210	-9
Number of screenings for groups in screening room	90	59	+31

SLIDES AND FILMSTRIPS

	1958-59	1957-58	Comparison
Number of 2 × 2 slides sent out	68	122	-54
Total audience viewing slides	2,304	3,036	-732
Individual filmstrips sent out	3,158	3,016	+142
Total audience viewing strips	54,991	66,312	-11,321

TABLE IV GENERAL STATISTICAL SURVEY

Lectures

University staff and Department of Extension staff	1,970	
Aggregate attendance		101,074
Number of radio and TV talks	149	
Conferences and short courses, Table I	255	7,680
Feeder's Day attendance	2,250	
Breton Field Day attendance	250	
		2,500

Visual Instruction

No. of 2 × 2 slides and individual filmstrips sent out	3,226	
Total audience viewing slides and strips		57,295
Number of reels of silent film sent out	891	
Number of reels of sound film sent out	16,519	
Total sets of moving picture films sent out	3,980	
Total showings of films, sound and silent	5,266	

Library Circulation

Travelling Libraries		50,477
Open Shelf:		
Adult Books	64,625	
Juvenile Books	35,544	
Periodicals and Pamphlets	1,413	
Total		101,482

Study Group Material

Number of Citizens' Forum Bulletins sent out	1,470
Number of copies of New Canadian Plays sold	154
Number of bulletins, circulars and leaflets sent out	31,436

Report of Senator Donald Cameron, Director of the Banff School of Fine Arts

The year just closed marked the beginning of the Second quarter century of operation for the Banff School of Fine Arts and Centre for Continuing Education. It was an auspicious beginning for the second twenty-five years of service. The number of groups using the School's facilities increased from sixty-four the previous year to one hundred this year; the number of people participating, from 5,900 to nearly 8,000; and probably best of all, from the standpoint of future development, the year saw a marked increase in the number of classrooms and sleeping quarters available as a result of the building of the Second Wing of the Administration Building.

Through the generosity of the Provincial Government, the University and the Canada Council, a splendid New Wing containing an additional 37,000 square feet of floor space was built at a cost of \$550,000 and opened for occupation on January 15th, 1959. The Wing contains a most attractive dining room, capable of comfortably seating 600 people at a time. There are thirteen classrooms and a library and twenty-two twin bedrooms with bath and a lounge.

The combination with the old Wing of the Administration Building, with its 25,000 square feet of floor space, means that the one building now contains twenty-six classrooms, a library, an Auditorium seating 600, a dining room for the same number and a total of thirty-eight twin bedrooms, all with bath.

The erection of the new building meant that the two floors in Chalet III which were formerly used as dining rooms, could be converted to their original purpose of sleeping quarters and the space became eighteen twin bedrooms, with bath.

Emphasis was placed at the beginning of this report on the title, Banff School of Fine Arts and *Centre for Continuing Education*. While the fine arts will always occupy an important place in the programme of the School, the most rapid growth is in the School's activities as a centre for continuing education. The people who participate in the large number of short courses and conferences are business men and educators, church groups, labor and farm organizations. These are mature people who want good accommodation and the School is now able to provide facilities that are second to none on the continent. The only other Centres in America that compare with it are the Centre for Continuation Studies at the University of Minnesota, the Kellogg Centre at East Lansing, Michigan, and the similar centre at Athens, Georgia. None of these have the majestic setting of the Banff School and, as a consequence, it is rapidly becoming known as an international adult education centre of standing, both from the standpoint of facilities and quality of programme.

The largest single activity in the year continues to be the annual Summer Session in the Fine Arts. This attracted 604 students from ten Canadian provinces and twenty-three American states, with a sprinkling from Cuba, Columbia, Hawaii and England. About twenty percent were Canadian and American college students or teachers, who were taking courses for which they would receive either academic credit or salary increments in their home institutions. Another substantial percentage were serious students of painting, music, theatre and ballet who are going on to professional careers in those fields. An example of what the Banff School is contributing to the professional theatre in Canada, for example, can be illustrated in the Stratford Festival. This year nine former Banff students are playing leading roles at Stratford

—six in theatre and three in singing. These are: Frances Hyland, Bruno Gerussi, Ted Follows, Douglas Rain, Conrad Bain, John Arab, Al. Gray and Barbara Strathdee.

In the past year the Banff School of Fine Arts Summer Festival provided twenty-seven performances for over twelve thousand people. Twenty of the performances were in Banff and seven in Edmonton, Red Deer, Calgary and Lethbridge. The tour involved transporting Ballet and Opera Company casts of five and forty-five respectively, and after dividing the net proceeds with local sponsors there was a small surplus on the operation.

The Banff School of Advanced Management, which is a cooperative venture between the four Western universities, continues to grow and make an impact on the Canadian business community. Some ninety-nine executives, mostly from the middle management level and upwards, attended two six-week management training programmes during the year. In addition to this, the annual two-week courses in Personnel Management and in Executive Development had increased enrolments over the previous years.

Another feature of the Banff programme which is significant is the increasing use of the School and its staff by companies conducting series of intensive in-service training programmes. For example, Shell Oil conducted seven one-week courses for their supervisory personnel, each course being attended by twenty to twenty-five men. The Alberta Wheat Pool and some of the insurance companies are developing similar programmes at Banff, each suited to the needs of their particular business.

Church organizations, Y.M.C.A. and Y.W.C.A. groups, Women's University Clubs, the Alberta Teachers' Association, the Kellogg Foundation and the Faculty of Education are among the many other organizations which are making the School the centre for their extra mural educational activities. Farm organizations, too, are using the facilities of the School for leadership training purposes, so altogether the Banff School as the 'third campus' of the University is now playing a unique role as the leading centre for residential adult education in Canada.

Report of Dr. R. D. Stuart, Director of the Provincial Laboratory of Public Health, for the Year 1958

During 1958 the Provincial Laboratories carried out 526,510 examinations, an increase of 82,065 over 1957. This increase is slightly over-emphasized by the conversion in this year's report of certain histopathology figures from specimens to examinations, but even after allowing for this the figures for 1958 indicate an increase in examinations of about 16% in the Edmonton laboratory and about 12% in the Calgary laboratory. High percentage increases in both laboratories were recorded in diagnostic cytology for cancer cells, mycology, miscellaneous diagnostic bacteriology and in water examinations.

Special Trends

Completion of the new wing to the Edmonton laboratory, with its promise of expanded facilities, is still awaited but only a small amount of internal work remains to be done. These expanded facilities should be of great assistance in dealing with the considerable increase in hospital diagnostic work which must be anticipated under the new Federal—Provincial hospital agreement. This also emphasizes the desirability of relocating the Calgary laboratory in the city area where it can contribute more adequately to the

Provincial hospital diagnostic service. Although the new laboratory wing in Edmonton is still unavailable for full occupancy a portion of its space has already been used to extend the training facilities offered to technical workers from various hospital laboratories. The serious shortage of qualified laboratory personnel is a continuing problem in the provision of adequate diagnostic facilities throughout the Province. This is being tackled in combination with the University, certain large hospitals in the Province, and the Provincial Department of Health. A special course leading to a B.Sc. degree in Medical Laboratory Science has been developed and the Provincial Laboratory in Edmonton will take a considerable part in providing ancillary technical training.

New or Supplementary Services

Under this heading may now be listed the distribution of skin test antigens for the diagnosis of histoplasmosis, coccidioidomycosis and blastomycosis. This was begun tentatively in 1956 but has now been accepted as a necessary regular service. These antigens are not available locally on short notice but can be conveniently stocked and distributed from the Provincial Laboratory. 35 skin test sets have been distributed since the inception of this service and their use had led to the diagnosis of 2 cases of arrested histoplasmosis with pulmonary calcification, 1 case of arrested coccidioidomycosis and 1 case of active systemic coccidioidomycosis. Under this heading also may come the "control of infection" program adopted for the University Hospital. The location of the hospital immediately adjacent to the Edmonton laboratory and the availability of trained senior workers in that laboratory make this service desirable and feasible. Further, by its steady demand on our staphylococcal phage typing service, this infection control program helps to maintain the technical standards necessary to deal with the irregular but often urgent demands from other provincial hospitals for help with staphylococcal typing.

Regular Services

Mycology—The increasing clinical interest in medical mycosis has led to a dramatic increase in the diagnostic examinations carried out both in Edmonton and in Calgary. The Edmonton examinations have quadrupled in the last four years and the Calgary examinations have more than doubled in the last year alone. In Edmonton 213 dermatophytes were isolated during 1958.

Pathology—Demands on all branches of the pathology service have shown a steady increase in both laboratories, 16,485 surgical biopsy specimens being examined in Edmonton and 5,998 in Calgary. About 5% of the tissues received in Edmonton from rural hospitals showed evidence of cancer and this percentage was almost doubled in the tissues received from the University Hospital. In Calgary, Dr. Shute reports that 398 or nearly 7% of his histological specimens showed the presence of malignant disease. Examination of fluids for cancer cells has become of increasing importance in recent years. In Edmonton examinations of secretion from the cervix, sputum, bronchial washings, etc. increased from 315 in 1957 to 599 in 1958, malignant cells being identified in 24 instances this year. In Calgary the number of examinations, 686, was even higher but the incidence of cancer was lower, although 6 cases of early disease were thus detected.

Important as the diagnosis of cancer may be it should be considered to be the main purpose of these histopathological investigations of tissues and smears. Even in the absence of any malignant process the pathologist's report

is usually invaluable to the clinician as a guide in both diagnosis and treatment.

Bacteriology—Of particular interest is the continued rise in the isolation of organisms of the *Salmonella* group in both laboratories. This seems to have started about 1956 and applies particularly to organisms associated with food poisoning. The 112 isolations in Edmonton are considered especially significant because they were derived from such a large number of isolated cases or from family outbreaks and not from any large epidemic. These findings indicate a very wide distribution of such organisms within the Province and suggest increasing human contact with them. In this connection the occurrence of 4 cases of *Salmonella typhi-murium* infection in babies, in Red Deer, Edmonton and Edson, is noteworthy. Bacillary dysentery also is now firmly established in the Province, *Shigella sonnei* being dominant. *Shigella boydii*, which first appeared in 1957, caused a few more cases this year.

No particular prevalence of other bacterial infections has been observed. *Staphylococci* continue to cause trouble in hospitals but in most areas such infections seem to be under reasonable control. Diphtheria which was seen to be on the increase in recent years has been less prevalent in the northern part of the province, only 19 isolations being recorded, one from a fatal case. In the south 11 cases of diphtheria were encountered. All cases occurred sporadically and at scattered points but indicate the need for continuing vigilance in prophylaxis as well as in diagnosis.

An interesting series of unusual infections was encountered in Edmonton. *Pasteurella multocida* is an organism commonly carried by cats, dogs and certain farm animals. In previous years rare infections with this organism have been diagnosed in both Edmonton and Calgary laboratories but during 1958 no fewer than 10 cases were encountered in the former laboratory. Of these infections 5 were in superficial wounds contaminated by dog or cat bites or licks, 4 were broncho-pulmonary, and 1 appeared in an acute suppurative appendicitis in a young farmer.

In the diagnosis of gonococcal infections the replacement of smear examination by culture, indicated in last year's report, has continued satisfactorily. This development has reduced the amount of laboratory work per specimen and has thus allowed the same number of workers to meet an increased specimen load. The percentage of successful results has been maintained at the highest level so far achieved.

Staff

The resignation of Professor C. R. Amies from his position as Consultant and Virologist to the Provincial Laboratory must be noted with extreme regret. Throughout his years of association with the Edmonton laboratory he had made an invaluable contribution to its services and development. Particularly is it to be regretted at a time when facilities for virus diagnosis were about to be provided in accordance with his own specifications and desires. The position of Senior Assistant Bacteriologist, vacant since the resignation of Dr. Iland in May, 1957, has now been filled by the appointment of Dr. E. J. Penikett from the Bacteriology Department of Guy's Hospital in London. Dr. Penikett took up his duties in the beginning of December, 1958.

TABLE I
EXAMINATIONS PERFORMED IN THE PROVINCIAL LABORATORIES

Year 1958

<i>Control of Common Infections</i>	Edmonton	Calgary
Enteric-Dysentery	5,965	2,281
Diphtheria	4,858	1,445
Fungus infections	3,392	278
Intestinal Parasites	327	98
Naso-pharyngitis	9,252	1,376
Tularaemia serology	1,698	727
Tuberculosis	12,242	2,161
Undulant Fever serology	1,850	727
Whooping Cough	26	25
<i>Other diagnostic and miscellaneous</i>		
Animal inoculations (other than T.B.)	141	49
Antibiotic etc. sensitivities—disc	157,002	31,814
tube	15	.....
Blood cultures	1,222	108
Leptospirosis	200	.....
Miscellaneous	19,921	4,507
Paul Bunnell test	1,042	334
P.M. Bacteriology	253	.....
Referred cultures	283	4
Special investigations	7,851	12
Trichomonas	7,652	327
Virus infections	306	.....
<i>Venereal Disease Control</i>		
Chancroid etc	5	.....
Gonorrhoea — Smears:	6,902	6,111
Cultures:	8,094	359
Syphilis	121,510	37,173
<i>Sanitary Bacteriology</i>		
Food Products	64	11
Milk and Cream	2,998	2,190
Water	11,616	6,480
Utensils	1	5
<i>Pathology</i>		
Diagnostic cytology—blood smears	194	175
bone marrow	203	3
fluids	599	686
Routine diagnostic histology	21,308	7,479
Routine diagnostic autopsies	8,069	5
Referred diagnostic histology	1,750	2
Pregnancy Diagnosis—Frog Test	728	.....
Rabbit Test	19	.....
TOTALS	419,558	106,952

TABLE II—CONTROL OF ENTERIC-DYSENTERY INFECTIONS

<i>Examinations</i>	Edmonton	Calgary
Blood and Clot Cultures	1,542	725
Faeces Cultures	2,292	740
Urine Cultures	19	19
Other examinations	46	.....
Serological Tests	1,802	727
<i>Details of Isolations including repeats</i>		
<i>Salmonella</i>		
S. typhi	15	.....
S. paratyphi B	22	1
S. typhi-murium	64	8
S. heidelberg	25	11
S. newport	12	13
S. montevideo	4	.....
Other Salmonellae	7	.....
<i>Shigella</i>		
Shigella sonnei	132	26
Shigella flexneri	16	3
Shigella boydii	8	.....

TABLE III—CONTROL OF TUBERCULOSIS

<i>Examinations</i>	Edmonton	Calgary
Microscopic	6,184	927
(positive)	320	5
Culture	3,867	715
Animal inoculations	2,091	519

<i>Specimens</i>	Edmonton		Calgary	
	No.	Positive	No.	Positive
Pulmonary	4,852	406	726	.....
Meningeal	79	7	27	1
Renal	826	51	328	2
Other	410	36	235	3

TABLE IV—CONTROL OF SYPHILIS

<i>Bloods</i>	Edmonton	Calgary
Examinations—Presumptive Kahn	95,498	29,082
Standard Kahn	10,139	3,192
Quantitative Kahn	848	147
Wassermann (Kolmer)	13,342	3,719
<i>Cerebro-spinal fluids</i>		
Examinations—Wassermann (Kolmer)	1,683	997
Blood and cerebro-spinal fluid "positive" to reaction	596	129
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	2,013	855
<i>Pre-marital Bloods</i>	12,284	8,292
Positive to reaction	13	3

TABLE V—SANITARY CONTROL MILK AND CREAM

	Edmonton	Calgary
<i>Milk and Ice-cream</i> (No. of specimens)	1,655	1,157
Coliform test	904	530
Plate Count	1,651	1,157
Phosphatase	242	280
Butter fat	200	209
Milk bottles etc	1	7

TABLE VI—SANITARY CONTROL WATER

	Edmonton	Calgary
<i>Water</i> (No. of specimens)	5,536	3,127
Coliform test—Presumptive	5,502	1,661
Confirmed	1,820	1,350
Special	279	321
Plate count	4,015	3,148
Waters found bacteriologically unsuitable	923	1,050

Report of Mr. C. E. Noble, Director of the Industrial Laboratories

During the year 1958-59, the Department of Provincial Analyst and Industrial Laboratories carried out 11,492 analyses. These included analysis of materials for various Government Departments such as the Attorney-General, Agriculture, Health, Highways, Lands and Minerals, Mines and Forests, Provincial Secretary, Public Works, and also the University. Control analyses were made for the Alberta Liquor Control Board, and included analysis of malt liquors, stock samples, and complaint samples. The Breweries were inspected once per month.

Chemical examinations were made for the Provincial Coroner, hospital pathologists and doctors, and the necessary court evidence given under the Dominion and Provincial Acts and Regulations.

Exhibits from the various Police Departments were examined and analysis made where necessary, court evidence being given where required.

The specimens from the Veterinary Laboratory continue to increase in number and variety as new pesticides are found. The commercial work remained about the same, or slightly less; however, this class of work becomes increasingly difficult, requiring more work and research. The routine commercial work is being taken over by commercial laboratories. Help and advice was given to Alberta prospectors as requested, and the mineral and ore samples submitted were analysed.

The Engineering testing work decreased as this work was taken over by commercial firms while the samples for health departments continued to increase rapidly.

Some testing work was done for other laboratories and some help was received from them. Also many referee samples from firms and other laboratories were analysed. To sum up, the work of the Provincial Analyst Department is steadily increasing while the Industrial work declines slightly as more commercial testing firms appear.

Examinations and Analyses

Acid	4	Furs	1
Alcohol	3	Galena	2
Anodes	2	Gasoline	34
Antifreeze	1	Glass	6
Ash	2	Glass Beads	5
Asphalt	2	Glauber Salts	6
Barytes	4	Glue	5
Bentonite	2	Glycol	3
Biscuit	1	Grain	13
Bitters	3	Gravel	2
Blankets	8	Gypsum	2
Blood	637	Hair	3
Bornite	15	Ham	2
Bottle	1	Hats	2
Brain (for alcohol)	106	Honey	1
Brass	2	Industrial Chemicals	2
Bread	3	Ink	4
Brine	6	Insecticides	1
Bugs	2	Insects	3
Calculi	17	Insulation	3
Candy	8	Iron	7
Carbon	1	Iron Ore	1
Carbon Paper	46	Lead	7
Carpet	1	Leaves	1
Cement	8	Lime	3
Chemicals	12	Limestone	39
Chlorine Compounds	3	Linoleum	1
Cigarettes	2	Liquid	8
Clay	35	Liquor (Detailed for ALCB)	115
Cleaner	8	(Malt for ALCB)	1129
Cloth	7	(Police Samples)	135
Clothes	105	(Miscellaneous)	9
Coal	4	Lung	2
Coffee	3	Manure	1
Concrete	12	Marl	4
Cream	3	Matches	1
Deposits	48	Meat	9
Detergent	4	Medical Compounds	2
Diaper	1	Medicine	2
Disinfectant	1	Metal	20
Drapes	8	Mica	2
Dust	1	Milk	3
Eggs	2	Miscellaneous	14
Feed (Animal)	36	Molasses	1
(Poultry)	34	Mud	5
(Concentrates)	6	Narcotics	4
Fertilizer	1	Oil (Crude)	4
Fire Exhibits	2	(Lubricating)	7
Fire Extinguisher	1	(Protective)	2
Food (Human)	60	(Fuel)	3
Fruit	2	(Edible)	2

Ore	293	Solvents	8
Paint	35	Spices	1
Paper	12	Steel	25
Pills	25	Stucco	5
Pipe	2	Strychnine	1
Plants	2	Sugar	2
Plastic	1	Tankage	7
Plaster	12	Tile	5
Poison Exhibits (Misc.)	10	Tomatoes	1
(Human)	491	Urine	105
Police Exhibits (Misc.)	114	Veterinary Specimens	1256
Potatoes	2	Vitamins	1
Powder	8	Volcanic Ash	2
Pyrites	2	Voodoo Stick	1
Quartz	4	Water (Sanitary)	3704
Rock	379	(Poison)	4
Rope	1	(Industrial)	25
Rubber	9	Wax	44
Rubbing Alcohol	1	Wheat	9
Rugs	1	Wire	2
Salt	10	Wood	6
Salve	1	Wool	2
Sand	52	Zeolite	1
Sandstone	2		
Schist	1	<i>Engineering Materials</i>	
Sediment	1	Concrete Cylinders	1273
Seed	1	Condensers	1
Shale	13	Conductor Cable	14
Shorts	3	Electrician Gloves	407
Silage	2	High Voltage Fuses	4
Silica	4	Light Buses	1
Sludge	1	Lightning Arresters	21
Soap	9	Lightning Rods	1
Sodium Sulphate	3	Meters	9
Soft Drinks	1	Rubber Blankets	4
Soils	91	Transformer Oil	3
Solutions	8	Voltage Regulator	1



REPORT
OF
THE GOVERNORS
OF THE
UNIVERSITY OF ALBERTA
1959-60

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To the Lieutenant-Governor in Council

Sir:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1960, and investments as they stood at the end of the fiscal year. Appended to this report is the report of the President of the University, in which the academic work of the University for the Year July 1, 1959 to June 30, 1960, is dealt with in detail.

C. M. MACLEOD, Chairman

W. H. JOHNS, President

December 31, 1960

Financial Statements

Edmonton, Alberta, August 10, 1960

I have audited the books and records of the University of Alberta for the year ended March 31, 1960. The undernoted statements are submitted herewith:

Statement	Particulars
A	Balance Sheet
B	Statement of Operating Reserve
C	Statements of Revenue and Expenditure

Operating Results

Operations for the year ended March 31, 1960, resulted in a deficit of \$112,136.65 as compared with a surplus of \$368,968.06 for the previous fiscal period. Details of operations are shown in Statement C.

The deficit for the year has been charged to operating reserve. Transactions within the reserve are set forth in Statement B.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:

Balance as at April 1, 1959 \$20,574,006.60

Add:

Advances during the year:

Physical science building	4,750,084.69
Physical education building	1,702,659.64
Medical science building	1,678,013.45
Science and engineering building, Calgary	979,758.73
Arts and education building, Calgary	774,261.27
Engineering building	441,890.09
Improvements to site	267,341.34
Improvements to site, Calgary	170,192.32
Service buildings	138,179.70
Growth chambers	91,094.92
Improvements to teaching buildings	67,971.60
Van de Graaf accelerator building	47,084.42
Equipment	617,667.84

\$32,300,206.61

Deduct:

Provincial Laboratory of Public Health building 1,206,518.84

\$31,093,687.77

Capital surplus:

Balance as at April 1, 1959 \$ 3,148,941.85

Add:

Acquired from trust and donated funds:

Buildings	19,068.00
Equipment	113,381.00

Income contributions:

Buildings	50,876.77
Equipment	24,615.40
Library	100,655.52

\$ 3,457,538.54

Deduct:

Demolition and disposals 12,039.69

3,445,498.85

\$34,539,186.62

Subject to the foregoing remarks, I certify that, in my opinion, the above Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1960, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the results of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.,
Provincial Auditor.

UNIVERSITY OF ALBERTA
BALANCE SHEET AS AT MARCH 31, 1960

ASSETS

Buildings and equipment in service:			
Land, buildings and plant		\$29,519,105.22	
Furnishings and equipment		4,933,729.85	
			\$34,452,835.07
Loan receivable:			
Students' Union re Students' Union building, see contra			167,457.71
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$177,250.00)			198,670.00
Current:			
Cash on hand and in treasury branch	\$	111,612.66	
Accounts receivable:			
Sundry debtors	\$	92,955.30	
Less: Allowance for doubtful accounts		2,500.00	
	\$	90,455.30	
Government of the Province of Alberta ..		418,925.66	
Due from trust account		16,766.92	
		526,147.88	
Accrued interest		4,604.16	
Merchandise held for resale		190,150.02	
			832,514.72
Prepaid expenses:			
Supplies on hand	\$	113,398.08	
Unexpired insurance		18,843.61	
Unemployment insurance stamps		796.74	
			133,038.43
Other assets:			
Livestock	\$	30,908.00	
Deposit, Workmen's Compensation Board		8,564.00	
			39,472.00
			\$35,823,987.93
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,395,500.00	
Provincial debentures, direct and guaranteed		1,465,395.00	
Municipal debentures		6,000.00	
Corporation debentures		31,395.00	
Corporation shares		42,350.61	
	\$	2,940,640.61	
Cash on hand and in bank		649,998.68	
Loans receivable		41,175.58	
Real estate, shares and sundry, nominal value		8.00	
			3,631,822.87
			<u>\$39,455,810.80</u>

LIABILITIES

Capital and surplus:			
Capital provided by the Government of the Province of Alberta		\$31,093,687.77	
Capital surplus		3,445,498.85	
			\$34,539,186.62
Loan payable:			
Government of the Province of Alberta re Students' Union building, see contra			167,457.71
Current:			
Bank overdraft	\$	91,043.34	
Accounts payable		410,976.43	
			502,019.77
Deferred income:			
Fees	\$	15,286.99	
Other		190.55	
			15,477.54
Reserves:			
Federal aid funds unexpended	\$	198,354.37	
University Athletic Board fees unexpended		38,888.40	
Land exchange		24,226.42	
Workmen's Compensation Board		8,564.00	
Library fees unexpended		3,289.03	
Rink repairs		1,148.16	
Provincial Laboratory of Public Health, operating		46,628.71	
Operating, general, Statement B		278,747.20	
			599,846.29
			\$35,823,987.93
Trust:			
General endowment:			
Rockefeller Foundation	\$	500,000.00	
Scholarships:			
Escheated estates	\$	796,396.99	
General		494,089.35	
			1,290,486.34
Research		566,087.17	
Students' grants and loans		110,354.44	
General educational purposes		385,302.93	
Pensions		49,361.93	
Sundry:			
Administered by the University	\$	275,057.41	
Held on behalf of others		438,405.73	
			713,463.14
Due to general account		16,766.92	
			3,631,822.87
			\$39,455,810.80

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
FOR THE YEAR ENDED MARCH 31, 1960

Balance as at April 1, 1959		\$ 376,248.90
Add:		
Transfer from the Provincial Laboratory of Public Health operating reserve:		
Excess of expenditure over revenue	\$ 12,714.15	
Sale of miscellaneous surplus equipment	1,920.80	
		<u>14,634.95</u>
		\$ 390,883.85
Deduct: Decifit for the year ended March 31, 1960		<u>112,136.65</u>
Balance as at March 31, 1960		<u>\$ 278,747.20</u>

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1960

REVENUE

Grants:			
Province of Alberta:			
General	\$	3,947,000.00	
Clinical research, University of Alberta Hospital, see contra		50,000.00	
Debt charges, see contra		786,670.30	
	\$	4,783,670.30	
Government of Canada:			
Federal aid		1,817,752.34	
	\$		6,601,422.64
Fees:			
Tuition	\$	1,734,578.69	
Examination and special, net		37,199.51	
			1,771,778.20
Interest on Rockefeller Foundation endowment	\$	18,750.00	
Deduct: Transferred to medical research trust		8,750.00	
			10,000.00
Grants in aid			7,500.00
University Athletic Board fees, see contra			39,311.59
Operating departments, net revenue			74,382.16
	\$		8,504,394.59

EXPENDITURE

Faculties and schools, net		\$	5,522,325.28
Maintenance of buildings	\$	900,046.15	
Maintenance of grounds		78,385.52	
			978,431.67
Expenditures, as per contra:			
Debt charges	\$	786,670.30	
Grant to University of Alberta Hospital re clinical research		50,000.00	
Provision for University Athletic Board expenses		39,311.59	
			875,981.89
Administrative salaries and expenses, general			304,886.30
Public service departments, net			260,320.25
Other expenditures, net			674,585.85
			8,616,531.24
Deficit for the year ended March 31, 1960, charged to			
Operating Reserve, Statement B	\$	112,136.65	

*To the Governors of the
University of Alberta*

Gentlemen:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1960.

W. H. JOHNS,
President.

President's Report to Convocation

October 31st, 1959

Eminent Chancellor, Your Honour, Ladies and Gentlemen:

I am sure it will not come as a surprise to any of you when I say that the University of Alberta this fall is a larger institution than it was this spring when I last reported to you.

Student enrolment is up from 5,743 to 6,428—an increase of 685 students or about 12%. The actual increase in first-year students is not as great as was anticipated, having risen by only 135 students from 2,026 to 2,161.

Since the Government has this year added substantially to its assistance for students attending University, we must conclude that there is some other reason for the relatively small increase in first-year registration. I suspect that it is because many students failed to meet the standard required for matriculation, though we have not yet confirmed this by a study of the data on student enrolment in Grade XII.

The number of part-time and special day students decreased slightly but there has been an increase of 235 in students registered in the Evening Credit Program from 888 last year to 1,123. The total number of students registered in Edmonton and Calgary has thus risen from 7,004 to 7,882, or an increase of 878 or nearly 12%.

The figures for certain Faculties are of special interest. The Faculty of Engineering has shown a decrease of 63 students dropping from 1,231 to 1,168, with the biggest drop in the first year, which fell from 382 to 266, a drop of 112 or 34%. The Faculty of Education, on the other hand, has shown an equally remarkable increase—from 992 to 1,241 in Edmonton, and from 319 to 433 in Calgary, up about 25% and 36% respectively. The increases in other Faculties and Schools were much more modest, with one notable exception. The number of candidates for the Ph.D. has increased from 70 last year to 98 this year, of whom 80 are provisional. This is another substantial upsurge and gives some idea of the remarkable increase in research and graduate study being carried on at the University of Alberta. It is a matter of some concern to the Faculty of Graduate Studies that of the 98 candidates for the Ph.D. only 9 are in fields other than basic or applied science. In view of the growing demand for persons with the Doctorate in Colleges and Universities everywhere as well as in business, industry and government, it is very gratifying indeed to note that our University is at least assuming a substantial share of the burden of carrying on these advanced studies.

Our own requirements for new staff continue to be very heavy, and nearly 90 men and women joined our Faculty this year as replacements or additions to the complements of various Departments. It would be impossible to refer specifically to all these by name, but I hope I may be pardoned for singling out three for special mention. The appointment of Dr. L. H. Cragg as Professor of Chemistry and Vice-President will contribute greatly to the work of the President's office, especially in scientific matters. I am happy to refer also to the appointment of Dr. Hu Harries as Director of the School of Commerce,

and of Mr. R. B. Wishart as Administrator of Student Awards, a position made necessary by the very gratifying increase in a wide variety of forms of student assistance.

There have been a number of changes in senior positions throughout the University. Dr. W. C. MacKenzie, Professor of Surgery, has replaced Dr. John Scott as Dean of the Faculty of Medicine on the latter's retirement, and Dr. G. W. Govier assumed the post of Dean of the Faculty of Engineering when Dr. R. M. Hardy found that the pressure of other duties made it necessary for him to resign his office. I am very pleased to say that Dr. Hardy will still continue as a Research Professor in the field of Soil Mechanics, in which he has achieved such a distinguished reputation.

The research carried on by the members of the staff has resulted in a large number of papers appearing in professional journals throughout the world, and I am happy to be able to refer to several books which have appeared in recent weeks. Dr. E. H. Moss, Professor Emeritus, has completed his definitive work on the flora of Alberta, and it has been published by the University of Toronto Press. Dr. W. J. Eccles of the Department of History has won wide acclaim for his book on Frontenac. Dr. M. J. Huston, Dean of the Faculty of Pharmacy, has filled a long-felt need by publishing a textbook on Pharmaceutical Arithmetic, which will be used in all Departments of Pharmacy in Canada. Dr. Esther Milner, Assistant Professor of Sociology, has added to the literature of her field by her book "The Failure of Success". Dr. L. G. Thomas of the Department of History has made a substantial contribution to the History of the Canadian West with his book on "The Liberal Party in Alberta", a history of politics in the Province of Alberta, 1905 - 1921. Finally, Dr. J. P. Cutts has produced a collection of "Seventeenth Century Songs and Lyrics" published by the University of Missouri Press.

We hope these major works will be followed by an increasing flow of published works in the years to come.

This year saw a substantial growth in the physical plant of the University, with many major projects under way. The Physical Education Building with its Gymnasium for men and women, with rink and a swimming pool is nearly three-quarters completed. The large addition to the Medical Building is proceeding rapidly and is well ahead of schedule. Unfortunately the bad weather of the last three months has delayed work on the Physics-Chemistry-Mathematics Building in Edmonton and the two projects on the new campus of the University of Alberta in Calgary—one for Arts, Education, Administration, and Library, and the other for Science, Engineering and Food Services. A beginning has been made on the Engineering Building addition in Edmonton and a number of smaller projects have been brought close to completion. These include the underground work on sewers and water mains and the ring main electrical system, and underground growth chamber for the Department of Plant Science, a shipping and receiving depot, a grounds building, and a 24-car garage. Paving and grading of parking areas has unfortunately been delayed by bad weather, further complicating a parking problem which is very difficult at best.

We are grateful to the Government of Alberta, and especially to the Department of Public Works for undertaking this substantial building program in Edmonton and Calgary. However, much remains to be done and we see little relief from large capital budgets for the next year or two.

In addition to the very large amount required to complete projects now under way we are in serious need of further construction for an additional Education Building, an addition to the Rutherford Library (and more books to put into it), new students residences, a Household Economics Building, more facilities for food services, a Gymnasium in Calgary, and still other buildings not listed here. With so many buildings crowded onto the north end of the campus, the problem of finding suitable sites for new buildings, for parking, and for playing fields has already become acute. The standing Committee on Buildings and Grounds and the Board of Governors are giving serious thought to some satisfactory way of meeting the problem. It is becoming clear that part of the solution must be to build higher structures than we have been accustomed to erecting in the past. We hope that the needs of the Edmonton campus for the next decade can be met within two or three years and planning can be put into effect to expand the facilities in Calgary.

Another small step towards the solution of the problem of overcrowding in Edmonton is the affiliation of junior colleges with the University. Camrose Lutheran Junior College joined the Lethbridge Junior College this fall and still others may be added in the near future. These new ventures often find it very difficult to attract competent staff in a highly competitive market and still meet the high standards set by the University. When these standards are met, however, these junior colleges add greatly to the cultural resources of the communities they serve and bring the first year of university work within the reach of many students who could not otherwise have this advantage.

It is quite impossible to review all the work of the University within the compass of a single report to Convocation. I should like therefore to conclude this report by referring to some of the work being done outside the regular programs in the Faculties and Schools on the two campuses. The 1959 Summer Session again broke all existing records with 2,714 students enrolled in 113 courses, up 42% in two years. As part of its program this year the University again included a short course for school administrators and an Institute of Linguistics. An Institute in Modern Mathematics supported by the Canadian Mathematical Congress and the Department of Education was a new feature which proved very popular and will have the effect of raising the standard of mathematics teaching in the elementary and secondary schools of the province.

Professor J. W. Gilles, who is the Director of the Summer Session is also responsible for the conduct of an Evening Credit Program which this year increased its enrolment by 28% over last year. There are 25 courses being offered this winter in Edmonton, five in Calgary, two in Wetaskiwin, and one each in Camrose, Holden, Lethbridge, Red Deer, Trochu, Vegreville, and Westlock. A total of 1,225 students is registered in these thirty-nine courses.

Finally I should like to refer to the work of the Department of Extension. Professor D. D. Campbell, Director of Extension, stresses two main aspects of his program of Adult Education—one to provide a variety of courses in cultural fields to any adults who may wish them, the other to offer professional and vocational training in areas within the purview of the University. To achieve the first of these objectives there are classes in the main centres of the province in such varied subjects as Astronomy, Greek Art and Architecture, the fundamentals of Horticulture, Financial Statement Analysis, and Canadian Foreign Policy. For the farm districts there are courses in rural

leadership designed to provide information on the economic and social problems of the western farmer and his family.

There is also a great diversity in the courses designed to serve the second of these ends. These are carried on in co-operation with Chambers of Commerce, Personnel Associations, Real Estate Groups, Accountants, and many others. This week, for example, the Department has conducted a Seminar in Industrial Relations in Edmonton and Calgary with a recognized expert brought here from Ontario to conduct the course. Other examples include a course in Air Photo Interpretation for Civil Engineers and another in Systems Analysis for Electrical Engineers. This fall a course is being given in Numerical Method for reservoir engineers employed by oil companies. On a more permanent basis there is a course of study provided by the Division of Public Administration for assessors, municipal secretaries and councillors lasting three years. These examples of the work of the University in the field of extension should show that this is no ivory tower far removed from the world of human affairs. The University is here to serve the people of this province and of the world. It will always try to meet their needs in any way it can.

President's Report to Convocation

May 18, 1960

During the last academic session the University community, and indeed the whole province, was saddened by the death of Dr. J. J. Bowlen, Lieutenant Governor of Alberta and Official Visitor to the University. His great interest in people and his warm friendliness made him beloved by all who knew him and we shall cherish the recollection of the many occasions on which he honoured us by his presence.

It is a great pleasure for me to now express on behalf of the University of Alberta, our warmest greeting to the Honorable J. Percy Page, whom we welcome today for the first time at Convocation as our Official Visitor. His Honour and Mrs. Page have a distinguished record of service in the cause of education and we pledge our respect and loyalty to him as the representative of Her Majesty in the province, and as our honoured guest in University affairs.

Last spring I reported on the beginning of a number of new building projects for which a budget of ten million dollars had been provided by the provincial government and legislature. Today I am happy to say that these have gone forward well and are rapidly nearing completion. Yesterday we had the pleasure of attending the official opening of the Physical Education Building which is one of the finest of its kind in the world. Work is not yet completed on this structure but it is hoped it may be available for use in the coming summer session. This magnificent building represents a gift from the people of Alberta to the University in celebration of its Jubilee and I should like to record here our gratitude, not only to the provincial government who supplied the major portion of the funds, but also to the students, the alumni, and the friends of Winslow and Christian Hamilton who made substantial contributions to the cost of the swimming pool.

The two new buildings in Calgary are well advanced and we hope to occupy them this summer and fall and to hold the official opening ceremonies in connection with the fall Convocation on October 28 and 29 in Calgary. The large building on the Edmonton campus to house the Departments of Chemistry, Mathematics, and Physics was to have been 60% complete by this fall. It now appears that this forecast will be exceeded and that the facilities will be largely complete by September. The progress on the addition to the Medical Building, involving a great deal of re-distribution of space, may not be ready until some time during the winter, but we hope that various departments may be able to carry on their moves into the new quarters as the months go by. We expect the addition to the Engineering Building will be closed in shortly, with interior work going on throughout the winter. The rapid progress in completing these new facilities is reflected in the capital budget for the current fiscal year which provides a total of \$2,300,000 for furnishings and equipment for the various departments on both campuses.

In spite of the progress to date, much remains to be done, and provision has been made in the estimates this year for starting a new Gymnasium for the Calgary campus, a major addition to the Rutherford Library, a new building for the Faculty of Education on the north side of 87th Avenue between 112

and 114 streets, and planning for a Household Economics Building. These help make up the total Capital Building Budget of \$10,140,000 for this year. To this may be added contributions from the Canada Council of \$500,000, and perhaps more, as grants matching those of the provincial government for construction of facilities for the Humanities and the Social Sciences.

I have also to report the gift of a football stadium to the University of Alberta in Calgary made by Messrs. Frank and George MacMahon on a site donated by the city of Calgary adjacent to the campus. All this help in developing our physical facilities we gratefully acknowledge.

I have left for special mention the matter of student residences, which still remains one of our greatest needs. Our registration figures show that out of 5,703 students on the Edmonton campus this past session, 3,208 came from outside the city and required living accommodation. In Calgary the figure is 293 out of a total of 684. Of the Edmonton group, about 1,000 find accommodation in the various residences on the campus, including about 320 nurses in training at the University of Alberta Hospital. This still leaves about 2,000 students to be accommodated elsewhere in Edmonton and the whole of the Calgary group of nearly 300. A complicating factor is the presence in the student body of a large number of married men, comprising about 25% of the total. It is hoped that by the time of the Fall Convocation I may be able to report progress on the solution of this whole problem. I am happy to say that the General Alumni Association has recognized the importance of student residences by voting the sum of \$100,000 payable over a period of ten years beginning at once with the stipulation that a satisfactory plan can be agreed upon and a prompt start made on construction.

It is difficult to condense into a brief compass the activities of a Faculty that is presently increasing at the rate of nearly ninety new members a year. It may be of interest, however, to say that one criterion is the number of items in the reports of the Departments and Faculties under the heading of publications. In the past academic year, from July 1, 1959, the staff of the Faculty of Arts and Science appear to have published 194 articles, the Faculty of Medicine 95, and the Faculty of Education 62, in addition to countless lectures, radio broadcasts, reports, contributions to panel discussions, and, of course, their regular classroom lectures. Other Faculties and Schools have made similar contributions of this kind.

The members of General Faculty Council have become increasingly concerned of late at the shortness of our university year and action has been taken to increase it in a number of ways. This year for the first time students graduating from the Faculties of Medicine and Dentistry are not present at this Convocation. They are, in fact writing final examinations today, and those who meet the requirements for graduation will be honoured at a special Convocation to be held on Monday afternoon, June 6 next.

Beginning next year, the Faculty of Law will extend its program to a full-twenty-eight weeks, exclusive of holidays and examinations. Students will register on Saturday, September 17 and begin classes on September 19, nearly a week before students in other Faculties except Dentistry and Medicine who will begin during the first week of September as usual. All other Faculties will have a slightly longer academic year, beginning registration on September 19 and carrying on with their classes until April 15, 1961. Examinations will begin April 19 and Convocation will be on May 25—a week later

than this year. Another innovation approved for the coming session is the continuation of classes through to December 23, with mid-term examinations scheduled for the week of January 9. Finally the Memorial Day holiday on November 11 will be withdrawn. Instead, classes will be scheduled throughout the day except for the hour from 10:30 to 11:30 a.m. when a memorial service will be conducted in Convocation Hall as usual. These revisions in the academic year will provide more time for classes and we hope they will effect an improvement in the year's work as a whole.

The increasing complexity of science and research, pure and applied, of business and government has resulted in society placing much greater emphasis than formerly on advanced education, and a higher level of academic achievement is being demanded. To achieve this we have recently expanded our efforts in the field of graduate studies and have tried to encourage the best students in the Faculty of Arts and Science to enrol in the four year Honours program instead of the ordinary three year course. To meet the need for improved education for Commerce graduates, our program has been expanded to four years and, effective September 1, 1960, the School of Commerce will be raised to the status of a Faculty.

The Faculty of Pharmacy with its dual responsibility for training young men and women in the management of a business as well as in pharmaceutical is seeking approval for a similar extension of its program.

One of the best measures of a university's success in carrying out its role in society is the size of its library and the use made of the facilities therein. Mr. Bruce Peel, Chief Librarian of the University, in his annual report refers to the fact that this is the third successive year in which substantial increases have occurred in the library's acquisition of printed materials and in their use. In the year just ended, the number of periodical subscriptions added was up by 49%. Including books, bound periodical volumes, pamphlets and documents, the library added about 38,600 items. Library circulation in the three libraries (the Rutherford Library, the Education Library, and the Library of the University of Alberta in Calgary) was 324,267 volumes, an increase of 15%. Library attendance was up by 25%. All these figures are in excess of the figures for increase in student enrolment and provide a good indication of the increase in academic activity taking place at the University of Alberta.

We in Canada live in a society which is constantly in flux and universities seem to be undergoing more rapid changes than society as a whole. In order to try to meet our responsibilities effectively, we have set up two important committees. The first, under the Chairmanship of Dr. A. G. McCalla, Dean of the Faculty of Graduate Studies, has been asked to attempt a long-range forecast of the University's probable development over the next few years and to offer a guide to planning that development wisely and well. The other, under the chairmanship of Dean W. F. Bowker of the Faculty of Law, has been asked to prepare a draft revision of the University Act to bring it more into line with such new developments as the growth of the University of Alberta in Calgary, the affiliation of Junior Colleges with the University, and the changing responsibilities of the various statutory bodies and administrative officers in the University.

In view of the broadening scope of the University's interest in other institutions throughout the world, the Board of Governors has authorized our membership in the International Association of Universities. A recent volume of

papers published by this body on the subject of "University Education and Public Service" contains an article by Professor H. H. Janssen of the Roman Catholic University of Nijmegen on "The Responsibility of the University towards itself, the Student, and Society". In it he says:

"The university of today tends more and more to move into the centre of everyday life. Its very appearance is no longer that of a Renaissance building with ancient pillars, but has rather the austere look of a block of business offices. . . . To the ancient Greeks, *theoria* and *praxis* were opposite notions; to us the distance between the two has been greatly reduced. The everyday life of society is strongly influenced by what universities and laboratories think and invent, and, on the other hand, the scientist no longer lives in a ivory tower, and is obliged, in doing his research, to bear in mind the needs of society."

I can say with confidence that the faculty of the University of Alberta have taken these views so much to heart that they might, each one, have composed these words.

I have referred above to the new members being added to the staff each year. On the debit side of the ledger appears the losses we experience and I should like to pay tribute today to three members of our staff who have served the University long and well. Dr. M. R. Marshall retires this year as Professor of Ophthalmology, though he will still carry on his practice. His contribution to the establishment of Graduate training in the Faculty of Medicine as well as his work in his own special field have won him the gratitude of us all. Miss Hazel McIntyre is retiring as Director of the School of Household Economics after a long career of teaching and research. Miss Maimie Simpson, after having made a distinguished and unique contribution to the University community, leaves her post as Dean of Women to begin a leisurely voyage around the world before settling in Victoria. These two ladies will be long remembered with affection by staff and students alike.

Table I—Academic Staff Numbers (September 1st, 1959)

Administrative Officers

President	1
Vice-President	1
Assistant to the President	1
Deans of Faculties	9
Directors of Schools	5
Director of the Calgary Branch	1
Assistant Director of the Calgary Branch	1
Director of the Summer Session	1
Provost	1
Assistant Provost, Calgary Branch	1
Director of Student Advisory Services	1
Assistants to the Director of Student Advisory Services	4
Dean of Women	1
Librarian	1
Superintendent of the University Hospital	1
Registrar	1
Associate Registrar	1
Assistant to the Registrar	1
Alumni Secretary	1
Bursar	1
Accountant	1
Assistant Accountant	1
Purchasing Agent	1
Personnel Officer	1
Wardens of Residence Halls	3

<i>Full-time Teaching Staff</i>		
Professors	98	
Associate Professors	137	
Assistant Professors	166	
Lecturers and Instructors	19	
		420
<i>On Leave of Absence</i>		
Professors	3	
Associate Professors	5	
Assistant Professors	2	
Lecturers	nil	
		10
<i>Part-time Teaching Staff</i>		
Professors	2	
Associate Professors	5	
Clinical Professors	17	
Assistant Professors	8	
Associate Clinical Professors	2	
Assistant Clinical Professors	24	
Lecturers and Instructors	170	
Teaching Assistants	120	
		348
<i>Department of Extension</i>		
Director	1	
Assistants	3	
Agriculture Secretary	1	
Librarian	2	
		7
<i>Library</i>		
Librarian	1	
Assistant Librarian		
Assistants	17	
		18
<i>Industrial Laboratories</i>		
Director and Provincial Analyst	1	
Assistants	2	
		3
<i>Provincial Laboratory of Public Health</i>		
Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	
Provincial Pathologist	1	
Assistants	4	
		7
<i>Other Staff</i>		
Dietitians	3	
		3
Total		858
Less Duplicates		31
Total Academic Staff		827

Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

John Malcolm Asplund, M. Sc., Assistant Professor of Animal Science.

Steve Pawluk, B.Sc., Ph.D., Assistant Professor of Soil Science.

William Treleaven Andrew, B. Sc., M.S., Ph.D., Associate Professor of Horticulture.

John Alfred Toogood, B.Sc., Ph.D., Professor and Head of the Department of Soil Science.

Gordon Ritchie Webster, M.Sc., Ph.D., Assistant Professor of Soil Science.

Faculty of Arts and Science

John Ross McGregor, B.Sc., B.Ed., M.Ed., Assistant Professor of Mathematics.

Alison Pettigrew Scott, B.A., B.Litt., Ph.D., Assistant Professor of German.

Alvin Harms, B.A., Assistant Professor of French, Calgary.

Stuart B. Woods, M.A., Ph.D., Associate Professor of Physics.

George Croyden Neilson, M.A., Ph.D., Assistant Professor of Physics.

Wilfred Kenneth Dawson, B.S.A., M.A., Ph.D., Assistant Professor of Physics.

Armin Arnold, L.-ès-L., Ph.D., Assistant Professor of German.

Joseph Szoverffy, Ph.D., Dr.phil.habil., Assistant Professor of German.

Raymond W. Beachey, B.A., Ph.D., Associate Professor of History.

Peter J. Kreuger, M.Sc., D.Phil., Assistant Professor of Chemistry, Calgary.

Donald Frederick Chapin, M.A., Assistant Professor of English.

David H. Stewart, A.M., Ph.D., Assistant Professor of English.

Lewis Hertzman, B.A., A.M., Ph.D., Assistant Professor of History.

Carla Kathleen Alixe Colter, B.A., Lecturer in French.

Fraser William Birss, M.A., D.Phil., Assistant Professor of Chemistry.

Richard Charles Bullen Hartland-Rowe, B.Sc., Ph.D., Associate Professor of Zoology, Calgary.

William Albert Lennox Fuller, M.A., Ph.D., Assistant Professor of Zoology.

John Carl Holmes, B.A., M.A., Ph.D., Assistant Professor of Zoology.

Gordon K. Hirabayashi, M.A., Ph.D., Associate Professor of Sociology.

John A. Hostetler, B.S., M.S., Ph.D., Assistant Professor of Sociology.

Lee Lorch, B.A., M.A., Ph.D., Associate Professor of Mathematics.

J. E. L. Peck, M.Sc., Ph.D., Associate Professor of Mathematics, Calgary.

Maurice John Boote, B.A., Ph.D., Assistant Professor of Economics.

Thomas Lawrence Powrie, B.S.A., M.A., B.Phil., Assistant Professor of Economics.

William Clarence Strange, A.B., M.A., Assistant Professor of English.

Peter John Smith, M.A., Assistant Professor of Geography, Calgary.

Alexander Lovell Murray, B.A., M.A., Lecturer in History.

George L. Cumming, M.A., Ph.D., Assistant Professor of Physics.

Frederick C. Heymann, Ph.D., Associate Professor of History, Calgary.

Thomas Albert Oliver, M.Sc., Ph.D., Assistant Professor of Geology, Calgary.

Makoto Takeo, M.S., Ph.D., Assistant Professor of Mathematics, Calgary.

Raymond Castleton Miles, M.S., Ph.D., Associate Professor of Psychology.

Robert Alan Stangeland, Mus.B., Mus.M., Assistant Professor of Music (Piano).

Gordon Alastair MacLachlan, M.A., Ph.D., Assistant Professor of Botany.

Richmond W. Longley, B.Sc., A.M., Ed.M., M.A., Assistant Professor of Mathematics.

Frank Donald Blackley, M.A., Ph.D., Assistant Dean of the Faculty of Arts and Science.

School of Commerce

Hubert William Harries, B.Sc., M.Sc., M.A., Ph.D., Professor and Director of the School of Commerce.

Alastair Semple Rankin, B.Sc., C.A., Assistant Professor of Accounting.

John David Kyle, B.A., M.B.A., Assistant Professor of Business Administration.

Kenneth John Arthur, B.Com., M.B.A., Lecturer in Business Administration.

Faculty of Dentistry

Clarence Wilmer Bernard McPhail, B.Sc., D.D.S., M.S.D., Associate Professor of Dental Public Health.

George Hildon Gibb, B.Sc., D.D.S., Assistant Professor of Operative Dentistry.

Faculty of Education

Clifford Manley Christensen, M.A., Ph.D., Associate Professor of Educational Psychology.

Helen Marie Diemert, B. A., M.A., Assistant Professor of Education.

Mary Anne Beaton, B.Sc., B.Ed., M.Ed., Assistant Professor of Secondary Education, Calgary.

James Albert Stewart, B.A., M.A., Ph.D., Assistant Professor of Educational Psychology, Calgary.

Leonard Doyle Nelson, M.Ed., Associate Professor of Elementary Education.

Samuel Aubrey Earl, B.A., M.Ed., Associate Professor of Secondary Education and Supervisor of Student Teaching.

Franklin Eugene Churchley, B.Mus., M.A., Ed.D., A.R.C.T., L.R.C.T., Assistant Professor of Music Education.

John Douglas Ayers, B.A., B.Ed., Ph.D., Associate Professor of Educational Psychology.

Faculty of Engineering

George Wheeler Govier, B.A.Sc., M.Sc., Sc.D., Professor and Dean of the Faculty.

Donald Baker Robinson, M.A.Sc., Ph.D., Professor and Head of the Department of Chemical and Petroleum Engineering.

Stewart Ronald Sinclair, M.Sc., Professor and Head of the Department of Civil Engineering.

Ralph William Ansley, B.A., B.Sc., M.Sc., Assistant Professor of Civil Engineering.

Jaap Helle Bakker, B.Sc., M.S., Assistant Professor of Civil Engineering.

Mark John Baron, B.Sc., M.Sc., Assistant Professor of Civil Engineering.

School of Household Economics

Natalie Skrepneck, B.Sc., Assistant Dietitian, University Residences.

Frances Mary Theresa Zintel, B.S.H.Ec., Lecturer in Household Economics.

Elizabeth Louise Empey, B.Sc., M.N.S., Ph.D., Associate Professor of Household Economics.

Ruth F. Adams, B.S., M.A., Assistant Professor of Household Economics.

Faculty of Law

William Herbert Angus, B.A., LL.B., Assistant Professor of Law.

Faculty of Medicine

Herbert Edward Rawlinson, M.D., M.Sc., Ph.D., Professor and Head of the Department of Medicine.

Roy Henry Desmond Harris, B.Sc., M.D., Assistant Professor of Anatomy.

Thomas R. Nelson, M.B., Ch.B., F.R.C.S.(C), Associate Professor of Obstetrics and Gynaecology.

William Foster Ferguson, M.D., Assistant Professor of Obstetrics and Gynaecology.

Harold M. Barker, B.Sc., M.D., Dip.Psych, Assistant Professor of Psychiatry.

Lionel Everett McLeod, B.Sc., M.D., F.R.C.P.(C), Assistant Professor of Clinical Medicine.

Stanley Greenhill, M.D., D.P.H., Professor of Preventive Medicine.

Inge Dyrenfurth, M.Sc., Ph.D., Assistant Professor of Experimental Medicine.

Faculty of Pharmacy

John Cuthill Morrison, B.Sc., Ph.D., Assistant Professor of Pharmacy.

School of Physical Education

Shirley Ann Duquette, B.Sc. in Ed., Instructor in Physical Education, Calgary.

Mary Pauline Hendrickson, B.A., B.P.E., Lecturer in Physical Education, Calgary.

Library

Patricia J. McNeill, B.A., B.L.S., Library Assistant.

Ralph Nielsen, B.A., B.L.S., Library Assistant.

Sidney Harland, M.A., F.L.A., Library Assistant.

Margaret Sutherland, B.A., Library Assistant.

Mary E. Skeith, B.A., B.L.S., Chief Processing Librarian, Calgary.

Administration

N. G. Shaw, B.Sc., Secretary of the Banff School of Fine Arts.

Laurence Harold Cragg, M.A., Ph.D., F.C.I.C., Professor of Chemistry and Vice-President of the University.

Malcolm Gordon Taylor, M.A., Ph.D., Principal of the University of Alberta in Calgary.

Aylmer Arthur Ryan, M.A., Provost and Executive Assistant to the President.

William Alexander Douglas Burns, B.A., Secretary of the Admissions Committee.

Student Advisory Services

Peter P. Rempel, B.A., B.Ed., Ph.D., Counsellor and Associate Professor of Psychology.

Helen Isobel McWilliam, B.A., Counsellor, Calgary.

Department of Extension

Donald F. Powell, Supervisor, Visual Instruction Division.

Philip Emerson Rossell, B.A., M.A., Assistant Professor in Extension.

Leslie Fowlie, B.A., Assistant Librarian in the Extension Library

The Boreal Institute

Lois Jacqueline Carrier, B.A., B.L.S., Librarian of The Boreal Institute.

Table III—Leave of Absence

Edward Joseph Hollingsworth Greene, M.A., Docteur de l'Université de Paris, Professor of French.

LeRoy Peter Vernon Johnson, M.Sc., Ph.D., Professor of Genetics and Plant Breeding.

Emil Otto Hohn, M.R.C.S., M.B., B.S., M.Sc., Ph.D. F.Z., S., Associate Professor of Pharmacology.

Gerald Wesley Sadler, B.Sc., M.Sc., Associate Professor of Mechanical Engineering.

John Patterson Bowland, B.S.A., M.S., Ph.D., Associate Professor of Animal Husbandry.

Muriel Adeline Caldwell, B.Ed., Associate Professor of Education.

Allan Alexander Gibb, B.Sc., B.Ed., M.A., Ed.D., Associate Professor of Mathematics, Calgary.

Theodore Khyam Shnitka, M.Sc., M.D., Assistant Professor of Pathology.

Kenneth Alexander Hamilton, B.A., M.B., Ch.B., F.R.C.P.(C), M.R.C.P., F.A.C.P., Clinical Professor of Medicine.

William Eric Hodgson, B.A., B.Ed., M.A., Professor of Education.

Robert Valentine Blackmore, D.D.S., Assistant Professor of Operative Surgery.

Allan Des Champs, B.Sc., Agricultural Secretary, Department of Extension.

Charles Norman Gillis, B.Sc., Ph.D., Assistant Professor of Pharmacology.

Denis Goodale, B.Com., C.A., Associate Professor of Accounting.

Table IV—Retirements

John William Scott, M.D., C.M., F.R.C.P.(C), F.A.C.P., Professor and Dean of the Faculty of Medicine.

John Edleston Bowstead, M.Sc., Ph.D., Professor of Animal Husbandry.

Ralph Faust Shaner, Ph.B., Ph.D., F.R.S.C., Professor of Anatomy.

Hugh Alton MacGregor, B.Sc., M.Sc., Ed.D., Professor of Education.

Geoffrey Bradford Taylor, M.Sc., Admissions Registrar.

Table V—Resignations

Irwin Guttman, B.Sc., M.A., Ph.D., Assistant Professor of Mathematics.

John Dawson Newton, B.S.A., Ph.D., Professor of Soil Science.

June Epton, B.Ed. in Phys.Ed., Instructor in Physical Education, Calgary.

Genevieve Suzanne Andree Colleville, Lecturer in French, Calgary

John Randolph Murray, M.Sc., Ph.D., Professor of Pharmacy.

Joyce Elaine Wade, B.Ed., Assistant Professor of Education.

Irvine Noel Baker, M.Sc., Assistant Professor of Mathematics.

Kathleen Shirley Manser, B.A., Assistant Dietitian, University Residences.

Arnold Oscar Saffel, B.Com., M.B.A., C.A., Assistant Professor of Accounting.

Blanche Giffen, M.A., B.Sc., in L.S., Medical Librarian.

Donald F. Powell, Supervisor, Visual Instruction Division Department of Extension.

Herbert Melvin Axford, B.Com., M.Com., Ph.D., Associate Professor of Business Administration.

Margaret Hume Galloway, B.A., Librarianship Diploma, Assistant Librarian, Department of Extension.

Isabelle Elizabeth Pearce, B.A., M.Sc., Ph.D., Assistant Professor of Bacteriology.

Roy Henry Desmond Harris, B.Sc., M.D., Assistant Professor of Anatomy.

Philip Emerson Rossell, B.A., M.A., Assistant Professor of Extension.

Harold M. Barker, B.Sc., M.D., Dip.Psych., Assistant Professor of Phychiatry.

Table VI—Gifts

From Dowell of Canada Limited, \$1,400 grant to the Department of Chemical and Petroleum Engineering.

From Merck & Company Limited, \$3,000 grant in support of poultry nutrition in the Department of Animal Science.

From the Western Canadian Dental Society, \$800 to the Garvin Scholarship Fund.

From the Cultural Committee of the Canadian Polish Congress in Alberta, 9 Polish Scientific Review to the Rutherford Library.

From the Nutrition Foundation Inc., \$5,000 grant for research project under the direction of Dr. E. T. Pritchard.

From the Life Insurance Medical Research Fund, \$8,690 grant for support of research under the direction of Dr. C. M. Kay.

From the Academy of Pediatrics, \$2,500 grant for research under the direction of Dr. W. C. Taylor.

From the Canadian Pharmaceutical Association, \$2,091.05 grant for special lecturers in the Faculty of Pharmacy.

From the Academy of Sciences, \$150 grant for research under the direction of Dr. Hohn.

From the CIBA Company Limited, \$1,000 grant for experimental work under the direction of Dr. R. S. Fraser.

From the Muscular Dystrophy Association of Canada \$6,005.23 grant for research under the direction of Dr. C. M. Kay.

From the Canadian Life Insurance Officers Association, \$2,500 for the Association's Fellowships.

From Mr. A. R. Craig, \$250 grant for books in the Medical Library.

From United Grain Growers Limited, \$5,000 grant for research on pelleting conducted in the Department of Animal Science.

From the Ralston Purina Company, \$1,800 for a scholarship to Mr. Bruce E. MacDonald.

From Mr. J. E. A. McLeod, Canadian Western Natural Gas Company Limited Certificate No. C 17344 for 10 fully paid and non-assessable cumulative redeemable preference shares, 4% series, to be added to the capital already held by the University for the Paul Edward McLeod Memorial Prize.

From Cyanamid of Canada Limited, \$2,000 grant for poultry research in the Department of Animal Science.

From Atomic Energy of Canada Limited, \$12,000 grant for research in the Department of Mining and Metallurgy under the direction of Dr. J. G. Parr.

From the Canada Council, \$1,000 grant to assist in bringing Dr. S. E. Martin, Yale University, to the Summer School of Linguistics.

From the late Senator Buchanan, his gown and cap, which was forwarded by Mr. Manson of the Lethbridge Herald.

From the estate of the late Miss Marion E. Moodie, \$5,000 for the purpose of providing a scholarship in the memory of her nephew, Kenneth William Moodie.

From the National Heart Foundation of Canada, \$4,500 grant for research under the direction of Dr. R. F. Shaner.

From the Geological Survey of Canada, \$4,550 grants for research projects under the direction of Drs. R. E. Folinsbee, G. D. Garland, and K. Vozoff.

From G. D. Searle and Company, \$1,000 grant in support of the Searle Nilevar research project under the direction of Dr. K. Kowalewski.

From the Canadian Foundation for the Advancement of Pharmacy, \$1,200 for teaching fellowships in Pharmacy.

From the Canadian Chemical Company, \$1,500 grant to the Department of Chemical Engineering.

From the Eldorado Mining and Refining Limited, \$24,275 to the Department of Mining and Metallurgy.

From the Chemical Institute of Canada, \$500 grant-in-aid to the University in connection with the Ogilvie Fellowships.

From Mr. C. W. Carry, a grant of \$7,000 per year for five years to the Department of Medicine for research.

From the Brewing and Malting Research Institute, \$4,000 grant in support of the Barley Improvement project in the Department of Plant Science.

From James A. Lewis Company Ltd., \$500 for a scholarship for the 1959-60 session only in the Department of Chemical and Petroleum Engineering.

From the Bechtel Foundation of Canada, \$600 special grant for the assistance of a graduate student in the Department of Chemical and Petroleum Engineering.

From Consolidated Mining and Smelting Co. of Canada, \$4,000 grant for zinc research.

From the Shevchenko Foundation \$50 for expansion of the Gonsett Memorial Library.

From the McCullough Tool Company, \$1,500 for students in Engineering.

From N. D. McDermid, \$500.

From the W. K. Kellogg Foundation, \$27,192 grant for educational administration project.

From Mr. R. C. Lister, \$1,000 for the establishment of the R. Lister Trophy and Prize.

From Consolidated Mining and Smelting Company of Canada Limited, \$4,400 grant for fertilizer and nutrition work in the Department of Soil Science.

From Amchem Products Inc., \$500 grant for weed research in the Department of Plant Science.

From the Merrill Muttart Foundation, \$6,000 representing their annual contribution for heart research.

From Smith, Line and French Laboratories, \$1,902.50 grant for research under the direction of Dr. K. A. Yonge.

From the Norwood Branch, Canadian Legion, Edmonton, \$200 for the Ukrainian Library.

From Mrs. Irene Gonsett, \$7,400 and Mr. F. R. Gonsett, \$6,750, being endowments for the Gonsett Library.

From Engineered Buildings Ltd., \$20,000 to the University for the establishment of a loan fund.

From the Amerada Petroleum Corporation, an Amerada bottom hole gauge, valued at \$1,500 for the Faculty of Engineering.

From the Calgary and District Dental Society, \$100 to the Post-Graduate Fund in Dentistry.

From Dr. F. W. Patterson, his LL.D. gown and hood.

From Sandoz Pharmaceuticals, \$50 grant for medical books in Pharmacology.

From Ferranti-Packard Electric Limited, \$300 grant for the benefit of the mathematical, physical or practical sciences.

From the College of Physicians and Surgeons, \$300 being their 1960 grant to the Medical Library.

From Mr. T. J. Rutherford, \$90 for an essay competition among students in the Faculty of Agriculture for 1960-61.

From the California Standard Company, \$500 grant for library books for the Department of Geology, Calgary.

From the International Nickel Company of Canada Ltd., \$6,000 grant for titanium research under the direction of Dr. J. G. Parr.

From Northwestern Utilities Limited, a Sigma Calorimeter, valued at \$850, to the Department of Mechanical Engineering.

From Interprovincial Cooperatives Ltd., \$750 grant for nitrogen fertilizer research.

From the Alberta Chapter, Canadian Foundation for Poliomyelitis and Rehabilitation, \$200 grant for purchase of books for the Medical Library.

From the International Nickel Company of Canada Limited, \$20,000 being the final payment of their five-year grant.

From The Canadian Foundation for the Advancement of Pharmacy, \$500 grant for research in the Faculty of Pharmacy.

From the Multiple Sclerosis Society of Canada, \$4,938 grant for research under the direction of Dr. J. D. Taylor.

From Western Canada Ropes, \$100 to the President's Fund.

From the Edmonton Civic Employees, through the Canadian Cancer Society, Edmonton Branch, \$8,000 grant for fellowships at the McEachern Cancer Research Laboratory.

From the Edmonton Chapter, Multiple Sclerosis Society of Canada, \$450 grant for research under the direction of Drs. Pearce, Taylor and Cottle.

From the Home Oil Company Limited, \$2,837.50 grant for research on "Solvent Flooding for Increased Oil Recovery" under the direction of Dr. Flock.

From John Wyeth & Brother (Canada) Ltd., \$1,000 to the Faculty of Medicine.

From English Electric Canada, distribution transformers valued at approximately \$1,800 for the Department of Electrical Engineering.

From Shell Oil Company of Canada Limited, \$1,200 grant for summer work in connection with the Company's fellowship, 1959-60 and 1960-61.

From the Society of Industrial and Cost Accountants of Alberta, \$1,000 grant for research in the Department of Accounting.

From the Edmonton Academy of Medicine, \$150 to the Medical Library.

From the American Chemical Society, \$19,000 grant for research on magnetotelluric studies under the direction of Drs. Garland and Vozoff.

From Robin Hood Flour Mills Limited, \$288.30 grant to the Department of Plant Science re soft wheat.

From the Edmonton Section, Benevolent and Protective Order of Elks, \$500 grant to the Department of Children's Dentistry.

From Canadian Industries Limited, \$800 summer grant to the Department of Zoology re Wildlife Management.

From the Alberta Tuberculosis Association, \$210.65 to the Medical Library.

From Mr. W. B. Gill, \$10 to the President's Fund.

From CIBA Company Limited, \$100 grant to the Faculty of Medicine re special lecturer.

From the Canada Council, \$1,000 grant in connection with Dr. M. G. Taylor.

From Shell Oil Company of Canada Limited, \$1,500 grant for field work in the Department of Geology.

From the Edmonton Civic Employees' Welfare Chest Fund: \$2,000 grant to be used for research into muscular dystrophy and neuromuscular disorders under the direction of Dr. G. Monckton; \$2,100 grant to provide for three fellowships in heart research under the direction of Dr. R. S. Fraser.

From the 1960 Graduating Class, \$110.

From Harrisons & Crosfield (Canada) Ltd., \$500 grant to the Department of Soil Science re nitrogen fertilizer research.

From Northwest Nitro-Chemical Ltd., \$500 grant to the Department of Soil Science re nitrogen fertilizer research.

From class of local Life Underwriters' Association Training Course for 1960, \$25 to the University.

From Johnson & Johnson Limited, \$3,000 grant to the Department of Experimental Surgery.

From the Men's Residence House Committee, \$100 to the Reg. Lister Prize.

From the Alberta Association of Municipal Districts, portrait of Senator Cameron to the Banff School of Fine Arts.

From the Carnegie Corporation of New York, \$6,000 being the final payment for the development of an educational research program.

From The John and Mary R. Markle Foundation, \$6,000 in support of the Markle Scholar in Medical Science for 1960.

From Imperial Oil Limited, \$360 grant for summer work re C. R. Evans.

From Lederle Laboratories, \$1,200 representing the Lederle Medical Student Research Fellowships, 1960.

From the Government of Alberta, \$1,000 grant to Dr. E. J. Hanson for the study of milk regulations.

To the Petroleum Production and Reservoir Research program under the direction of Dr. D. L. Flock: California Standard Company, \$1,250; Calvin Consolidated Oil and Gas Ltd., \$150; Western Leaseholds Limited, \$150; Mobil Oil of Canada, \$800; British American Oil Co. Limited, \$1,500.

To the School of Commerce: Associated Helicopters Ltd., \$100; Northwestern Utilities Ltd., \$50; Weber Bros. Agencies Limited, \$200; Institute of Chartered Accountants, \$200.

To the Department of Botany: Steele Briggs Seed Company, \$10; Walter Ramsay Limited, \$50; Hudson's Bay Company, \$50.

From the Canadian Cancer Society, \$9,398.23.

From the Dominion Department of Agriculture, \$26,960 for research under Drs. Unrau and Wood.

From the Defence Research Board, \$11,517.

From the National Research Council, \$592,365.

From the National Cancer Institute of Canada, \$34,688.51

From the Alberta Heart Foundation, \$10,805.

To the Banff School of Fine Arts Scholarship Fund, \$13,083.86.

To the Banff School of Fine Arts, \$1,701.05.

Table VII—New Scholarships and Prizes

The Jessie E. Paull Memorial Prize of \$50 to be awarded annually to the student obtaining the highest standing in C.E. 410 (Highway Engineering), in the fourth year of Civil Engineering, provided the student obtains an average of at least 75% in this subject and is registered in a full year's program.

The College of Dental Surgeons of Saskatchewan Scholarship for \$150 is offered annually to a student of outstanding merit entering the fourth year of Dentistry.

The Arthur D. Cumming Scholarship of \$200 is offered annually to a student of outstanding merit entering the second year of Dentistry.

The Saskatchewan Physical Therapists Association Prize of \$50 is offered annually to the student graduating from the School of Physiotherapy with the highest general standing in all years.

The Samuel M. Strong Gold Medal and Prize in Sociology, in memory of the late Dr. Strong, will be awarded to the graduating student with the highest standing in the last two years of the honors program in Sociology. The medal will be awarded only to a student who obtains first class honors.

The Garneau Chapter, Imperial Order Daughters of the Empire, Edmonton Bursary of \$100 is offered annually to a student, resident in Edmonton, who is entering the first year of the Bachelor of Education course. The award will be made on the basis of academic standing and financial need.

The Shipley Scholarship of \$250 is offered by Shipley Photo Limited to a student of outstanding merit completing the second year course in dispensing pharmacy.

The Canadian Legion, Norwood Branch, Scholarship in Ukrainian, of \$100 each, to be awarded annually to three students of outstanding merit in Ukrainian language and literature, provided each student's academic record is otherwise satisfactory.

The Francis F. Reeve Foundation Graduate Bursaries, of the value of \$2,400 each, offered to three graduate students on a twelve-month basis.

The Francis F. Reeve Foundation Intersession Bursaries, of the value of \$800 each, offered to graduates of any university who are engaged in a program leading to a graduate degree at the University of Alberta.

James A. Lewis Engineering Ltd. Scholarship in Petroleum Engineering for \$500 offered to a student entering the third year of Petroleum Engineering at the University of Alberta.

The Canadian Freightways Motor Transport Matriculation Bursary of \$400 to be awarded to an Alberta student entering first year in the School of Commerce in Edmonton or Calgary.

The Canadian Chapter, Beta Sigma Phi, offers annually one scholarship of \$1,000 restricted to Western Canada and tenable in the fourth year of an Honors Course in English.

The Canada Cement Company offers annually two scholarships, each of the value of \$500, to students of outstanding merit, one entering third year Civil Engineering and one entering third year Mechanical Engineering.

The Block A Club Athletic Scholarship of \$100, offered by the Block A Club to a first year male student deemed outstanding in inter-collegiate athletics and having an academic standing not below 65%.

The Commonwealth Scholarship and Fellowship Plan. Under this Plan various governments within the Commonwealth are providing scholarships and fellowships, mainly for postgraduate work, tenable in their countries by men and women from other parts of the Commonwealth. It is anticipated that the

United Kingdom will offer 500. Scholarships will normally be for a period of two years and will likely cover all travel and other expenses.

Alberta Chapter, Canadian Foundation for Poliomyelitis and Rehabilitation offers annually three bursaries, of the value of \$350 each, to students from the University of Alberta who have, or expect to have, a first undergraduate degree and who wish to take a course in Social Work (specializing in the medical phase) at a recognized School or University in Canada.

The Dr. S. S. Spaner Prize in Psychiatry of \$50 will be awarded annually to a student of outstanding merit in Psychiatry who is completing the final year, provided the student's record is otherwise satisfactory.

The John W. Scott Honor Award, consisting of a medal and a cash prize of \$250, is offered by the Medical Alumni Association of the University of Alberta to a student completing the final year of the M.D. program, who over the four years of the course, has shown himself to possess to an outstanding degree those qualities of scholarship, leadership and character which may be expected to lead to a distinguished position in the medical profession.

The Reg. Lister Trophy and Prize. The trophy and a cash prize of \$50 will be presented annually to the undergraduate student who, during the previous academic session, lived in the University of Alberta Men's Residences and had the highest academic standing of all students so resident.

The Dr. Alan Coates Rank Award of \$100 will be awarded annually to the most deserving and outstanding student completing any year of the Faculty of Medicine.

The Canadian Arthritis and Rheumatism Society Book Prize. In memory of Thea Koerner, a book prize of the value of \$25 will be awarded to the second or third year student of the School of Physiotherapy presenting the best paper on "Rehabilitation of Patients with Rheumatic Disease".

The Alberta Geography Prize of the value of \$25 in books, including a one-year subscription to The Canadian Geographer is offered by Mr. Donald C. Lofquist, M.A., annually to the freshman student receiving the highest mark in Geography 201.

The Cave and Company Ltd. Scholarship in Chemistry of \$150 is awarded annually to a student graduating from the University of Alberta in the general program or honors program or in Chemical Engineering, and proceeding to graduate work in the Department of Chemistry at the University of Alberta.

The Steel Company of Canada Bursary of \$500 per annum is offered annually to a student entering first year at the University of Alberta. The bursary will be renewed each year for four years or until the student has completed his or her course whichever is less, provided a satisfactory academic standing is maintained.

R. Angus (Alberta) Limited Scholarship in Highway Engineering of \$500 to be awarded annually to a student of outstanding merit entering fourth year Civil Engineering in the Highway Engineering Program.

The R. L. King Memorial Scholarship in Journalism for \$500 is offered annually by Dr. Ben King in memory of his father, to a student entering the third year of a general course in the Faculty of Arts and Science who is interested in a career in journalism.

The Alberta Dairymen's Association Summer Work Awards. Two awards of \$150 each are available annually to students who express an intention to

specialize in Dairy Science and who, within the previous three years, have completed a summer's work in the dairy industry., These awards are available to students entering the first, second and third years in Agriculture.

The Calgary Herald Scholarship in Classics for \$500 is offered to a matriculant who proposes to enter the Honors Classics program at the University of Alberta in Calgary. This scholarship will be awarded on the basis of the matriculation examination in Latin. Additional consideration would be given to an applicant who has Greek 100.

The Polish Canadian Students Assistance Fund of Alberta. The Polish Community of Alberta has provided a fund for a limited number of prizes, bursaries and loans. These are for students at the University of Alberta in any year or course, or for matriculants entering first year. Such students must be of Polish origin and should be interested in making a contribution to the understanding of Polish culture and to the development of Polish community affairs.

The Faculty of Arts and Science Gold Medals, provided by an anonymous donor, are awarded annually to the graduating student in the general B.A. program and the graduating student in the general B.Sc. program of the Faculty of Arts and Science who have shown the highest distinction in scholarship.

The Charles E. Frosst Scholarship for \$250 is offered annually by Charles E. Frosst and Company of Montreal to a student of outstanding merit entering the final year of the Faculty of Pharmacy.

The American Society for Testing Materials Prize awards. Five prizes, each consisting of a year's membership in the Society, a certificate, eight issues of the A.S.T.M. Bulletin and two books from a selected list on standards and materials, are offered annually to students in Engineering on the basis of demonstrated ability and interest in the field of materials.

Peter Kiewit Sons Company of Canada Ltd. Scholarship of \$500 is awarded annually to a student entering the fourth year of Civil or Mechanical Engineering on the basis of his academic record in the third year, his financial need and his interest in the heavy construction field.

The Charles Cummer Memorial Prize of \$100 is offered to a student of outstanding merit entering the second or third year of the pharmacy course. Financial need will be considered in making the award.

The Eva Shaw Memorial Prize in Music of \$50 is offered annually in memory of the late Mrs. Roy Shaw, by her children, to a student of outstanding merit in any year of the Bachelor of Music program.

Table VIII—Staff Publications

Department of Agricultural Engineering

MacHardy, F. V. Designing a Materials Handling System. J. Can. Soc. Agr. Eng. 2:7. 1960.

MacHardy, F. V. Transient Heat Flow in Piggery Floors. J. Can. Soc. Agr. Eng. 2:13. 1960.

Department of Anaesthesia

Gain, E. A.—Cyclopropane Anaesthesia. Alberta Medical Bulletin, January, 1960.

Department of Anatomy

Rawlinson, H. E. Allan Coates Rankin: An Appreciation. C.M.A.J. 81: 57-58, 1959.

Rawlinson, H. E. Observations on the Iron Content of Mammary Glands, *Revue Canadienne de Biologie* 18:373-378, 1959.

Thompson, J. S. Medical Education in Canada. *Journal Medical Education* 34:723, 1959.

Thompson, Margaret W. A New Heredity Counseling Service in Western Canada. *Eugenics Quarterly* 6:167-170, 1959.

Harris, R. H. D. Leprosy: Report of Two Cases. *C.M.A.J.* 81:924-926, 1959.

Department of Animal Science

Berg, R. T. Influence of live weight on backfat thickness in swine. *Proc. Can. Soc. Animal Prod.*, pp. N52-53. 1959.

Berg, R. T. and Bowland, J. P. Handy Record Book for Swine. *Univ. Alta. Bull. L-SW-63*. January, 1960.

Bowland, J. P. Re-evaluation of grains and supplements for pigs. *Proc. Can. Soc. Animal Prod.*, pp. N43-45. 1959.

Bowland, J. P. and Berg, R. T. Influence of strain and sex on the relationship of protein to energy in the rations of growing and finishing bacon pigs. *Can. J. Animal Sci.* 39:102-114. 1959.

Bowland, J. P., Berg, R. T. and McElroy, L. W. Swine Production in Alberta. *Univ. Alta. Bull.* 22 (10th ed.). October, 1959.

Bowstead, J. E. Sheep Production in Alberta. *Univ. Alta. Bull.* 52 (revised). August, 1959.

Clandinin, D. R., Renner, Ruth and Robblee, A. R. Rapeseed Oil Meal Studies. I. Effects of variety of rapeseed, growing environment and processing temperatures on the nutritive value and chemical composition of rapeseed oil meal. *Poultry Sci.* 38:1367-1372. 1959.

Goswami, M. N. D., Robblee, A. R. and McElroy, L. W. Further observations on factors affecting L-cysteine desulphydrase activity in chick liver. *J. Nutrition* 68:671-682. 1959.

Hussar, N. and Bowland, J. P. Rapeseed oil meal as a protein supplement for swine and rats. I. Rate of gain, efficiency of food utilization, carcass characteristics and thyroid activity. *Can. J. Animal Sci.* 39:84-93. 1959.

Hussar, N. and Bowland, J. P. Rapeseed oil meal as a protein supplement for swine and rats. II. Energy and nitrogen digestibility and nitrogen retention. *Can. J. Animal Sci.* 39:94-101. 1959.

McElroy, L. W. Looking Forward in the Livestock Industry (Symposium). Teaching requirements in animal husbandry. *Proc. Can. Soc. Animal Prod.*, pp. 54-61. 1959.

McElroy, L. W. Quality of protein in grains. *Stockmen's Handbook* (10th ed.), pp. 34-38. Washington State University, Pullman. 1959.

McElroy, L. W. New developments and old principles in cattle finishing. *Stockmen's Handbook* (10th ed.), pp. 59-62. Washington State University, Pullman. 1959.

Staff. Thirty-ninth Annual Feeders' Day Report. *Univ. Alta. Press Bull.* XLV, No. 2, June, 1960.

Department of Bacteriology

Nimeck, N. W., Myers, G. E. and MacKenzie, W. C. An Evaluation of Aseptic and Antiseptic Techniques as Practised in a Modern Hospital. 1. Operating Techniques. *Can. Jnl. Surgery* 2, 233-241, 1959.

Myers, G. E., Nimeck, M. W. and MacKenzie, W. C. An Evaluation of

Aseptic and Antiseptic Techniques as Practised in a Modern Hospital. 2. Surgical Wards and Dressing Stations. *Can. Jnl. Surgery* 3, 381-386, 1959.

Myers, G. E. Antibacterial Activity of Certain Deodorants against *Staphylococcus aureus* and various other Micro-organisms. *Can. Pharm. Jnl.* 92, 530-533, 1959.

*Young, I. E. A Relationship between the Free-Amino Acid Pool, Dipicolinic Acid and Calcium from Resting Spores of *Bacillus Megaterium*. *Can. Jnl. of Microbiology* 5, 197, 1959.

*Young, I. E. and Fitz-James, P. Chemical and Morphological Studies of Bacterial Spore Formation. 1. The Formation of Spores in *Bacillus Cereus*. *P. Jnl. of Biophysical and Biochemical Cytology*, 6, 3, 467-482, 1959.

*Young, I. E. and Fitz-James, P. Chemical and Morphological Studies of Bacterial Spore Formation. 2. Spore and Parasporal Protein Formation in *Bacillus cereus* var. *Alesti*. *P.C. Jnl. of Biophysical and Biochemical Cytology*, 6, 3, 483-498, 1959.

*Young, I. E. and Fitz-James, P. Chemical and Morphological Studies of Bacterial Spore Formation. 3. The Effects of 8-Azaguanine on Spore and Parasporal Protein Formation in *Bacillus cereus* var. *Alesti*. *J. Biophysical and Biochemical Cytology*, 6, 3, 1959.

Crookes, E. M. L. and Stuart, R. D. The Value of Aesoparin in the Isolation of *Neisseria* from Swabs forwarded to the Laboratory in Transport Medium. *Jnl. of Path. and Bact.* 78, No. 1, 283-288, 1959.

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- (a) Parking Survey—Central Business District, July 1959, 22 pp., maps.
- (b) Amalgamation Study of the Calgary Metropolitan Area, July 1959, 8 pp.
- (c) A Preliminary Report on Urban Renewal in the City of Calgary, August 1959, 20 pp., map.
- (d) A Study of Calgary's Past and Probable Future Population Growth, December 1959, 27 pp.

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Staff members published several short articles in popular periodicals and wrote several book reviews.

Department of Psychiatry

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Department of Radiology

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Department of Social and Preventive Medicine

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Department of Soil Science

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Table IX—Theses Completed

Degree of Master of Arts

Nora Rea Sinclair, B.Ed. "Social Criticism in the Canadian Novel 1920-1945." (English)

Tova Yedlin, B.Ed. "Miliukov on Russian Liberalism 1890-1906." (History)

Frederick David Clandfield, B.Ed. "Rhyme in Modern Poetry." (English)

Park Olof Davidson, B.A. "The Use of the Glueck Social Prediction Table in Determining Probability of Recidivism for Young Adult Male Offenders: A Preliminary Study." (Psychology)

- Frederick George Hulmes, B.A. "The Changing Political Role of the Secretary-General of the United Nations." (Political Science)
- Gordon Earl Stephenson, B.A. "Toward the Development of a Prognostic Index in the Out-Patient Treatment of Male Alcoholics." (Psychology)
- Arthur George Storey, B.A., B.Ed., M.Ed. "Wechsler-Bellevue Performance as a Function of Interpersonal Anxiety." (Psychology)

Degree of Master of Science

- Marilyn Ann Hayes, B.Sc.(Arts) "A Study of the Hydrolysis of Bromopentamine Chromium (111) Bromide in Acetate Buffer." (Chemistry)
- Kenneth O. Anderson, B.Sc.(Eng.) "Engineering Properties of Some Muskegs Relative to Road Construction." (Civil Engineering)
- Michael Edward Charles, B.Sc.(Eng.) "Horizontal Pipeline Flow of Equal Density Oil and Water Mixtures." (Chemical Engineering)
- Robert John Cushley, B.Sc.(Arts) "The Preparation of Some Mercaptoindoles." (Chemistry)
- Geoffrey Davies, B.Sc.(Eng.) "A Study of Aggregative Fluidization." (Chemical Engineering)
- Peter Michael Dranchuk, B.Sc.(Eng.) "Evaporation Losses from Crude Oils." (Petroleum Engineering)
- Charles Robert Elliott, B.Sc.(Agric.) "Effect of Nitrogen Fertilizer Broadcast at Different Dates on an Aging Seed Stand of Creeping Red Fescue." (Plant Science)
- Norman Robert Fischbuch, B.Sc.(Arts) "Stromatoporoids of the Kaybob Reef, Alberta," (Geology)
- John Ignatius Generosa, B.S. "A Study of the Kinetics of the Iodination of Deuterated Acetone Catalyzed by Acids and Bases." (Chemistry)
- Norris Gayle Koch, B.Sc.(Arts) "Correlation of the Devonian Swan Hills Member, Alberta." (Geology)
- Peter Kozicki, B.Sc.(Eng.) "An Experimental Investigation of the Load Carrying Capacity of Drilled Cast-in-Place Concrete Piles by Means of Static Load Tests." Civil Engineering)
- Adam Alexander William Kryczka, B.Sc.(Arts) "The Nikanassin Formation of the Type Area Near Cadomin, Alberta." (Geology)
- John Carlyle Legge, B.Sc.(Eng.) "A Study of Extensive Air Showers at Mountain Altitude." (Physics) (in abs.)
- Henry John Likuski, B.Sc.(Agric.) "Energy Utilization and Nitrogen Retention by Swine and Rats Fed Rations Varying in Levels of Energy and Protein." (Animal Science)
- Robert Michael McMullen, B.Sc.(Arts) "Sedimentary Petrology of the Cardium Formation, West-central Alberta." (Geology)
- Herbert Dinsmore Madill, B.Sc.(Agric.) "The Inheritance of Rust Immunity Occurring in *Linum Augustifolium* (Huds.)." (Plant Science)
- Fumio Matsumura, B.Sc.(Agric.) "The Permeability of Insect Cuticle." (Entomology)
- John Barie Bain Orr, B.Sc.(Arts) "Ordovician Bentonites from Ontario." (Geology)
- Abdul Rahman, B.Sc.(Chem. Eng.) "Vapor Pressures of Ammonia and Carbon Dioxide in Equilibrium with Aqueous Solutions of Monoethanolamine." Chemical Engineering)
- Hilton, Howard Rix, B.Sc.(Eng.) "Detailed Studies of Frost Action in Soils." (Civil Engineering)

- David William Smith, B.Sc.(Agric.) "Studies of Native Alberta Species of *Vaccinium*." (Plant Science)
- Garry Robert Van Petten, B.Sc.(Pharmacy) "The Role of the 'Oxford Shunt' in Experimental Acute Renal Failure." (Physiology)
- Philip Charles Willer, B.Sc.(Arts) "A Study of Some Cambrian Sediments in Jasper Park, Alberta." (Geology)

Degree of Master of Education

- Ruby Olga Anderson, B.Ed. "Leisure Time Interests and Activities of First-Year Women at the University of Alberta." (Secondary Education)
- Muriel Adeline Caldwell, B.Ed. "A Survey of the Methods of Beginning Instruction in Reading from 1900-1950." (Elementary Education)
- Mary Edith Gray, B.Ed. "An Analysis of Language Themes in Grade Five, Grade Eight and Grade Eleven." (Educational Psychology)
- Doreen Parlett McKay, B.Sc.(Arts) "A Study of the Spelling Achievement of Rural High School Pupils." (Educational Psychology)
- Charles John Allison, B.A., B.Ed. "Characteristics of Students Who Fail Grade Seven in Edmonton Junior High Schools 1951-1952." Educational Psychology)
- Eric Russell Coffin, B.Ed. "An Investigation of the Amount of Knowledge Concerning the Schools of the School System Possessed by the Public." (Educational Administration)
- Frederick Enns, B.Ed. "A Survey of the Present Status of the Vice-Principal in Divisional and County Schools in Alberta." (Educational Administration)
- George Robert Hislop, B.Ed. "A Study of Division Two Social Studies Reading Skills." (Elementary Education)
- Myer Horowitz, B. A. "A Survey of Administrative Practices in Schools for the Mentally Retarded." (Educational Administration)
- Jacob Isaac, B. A. "Factors Affecting Achievement in High School Mathematics: A Survey of the Literature." (Secondary Education)
- Newman Kelland, B.Ed. "A Study of the Prestige of Certain Aspects of the Educational Program in Alberta Composite High Schools." (Educational Administration)
- Roland Aimé Lambert, B.Ed. "An Experimental Comparison of Two Methods of Teaching French to Non-French Students at the Grade X Level." (Secondary Education)
- Arthur Groat McBeath, B. A., B.Ed. "Teacher Leader Behaviour and its Relation to Teacher Effectiveness." (Educational Administration)
- Malcolm Whitney McDonnell, B.Sc.(Arts) "The Prediction of Academic Achievement of Superior Grade Three Pupils." (Educational Psychology)
- John Douglas McLeod, B.Ed. "The Urban Assistant Principal of Elementary and Elementary Junior High Schools." (Educational Administration)
- John Harvey Peter Malmberg, B.A., B.Ed. "The Principal as a Supervisor of Instruction in the Regional School Districts of New Brunswick." (Educational Administration)
- Jack Roland Powell, B.Ed. "An Experiment to Determine the Value of Assigned Homework in Grade IX Social Studies." (Secondary Education)
- Otto Reinhold Schmidt, B.A., B.D. "Social Values Inherent in the Short Stories of the High School Program." (Secondary Education)
- Veslof, Thomas, B.Ed. "Characteristics of Elementary Report Cards." (Elementary Education)

Philip John Warren, B.A., B.Sc.(Arts) "Leadership Expectations of the Principal in Newfoundland's Regional and Central High Schools as Perceived by Principals and Staffs." (Educational Administration)

Degree of Master of Arts

Karen Freda Hansen, B.A. "Linguistics Applied to Foreign Language Teaching." (Linguistics—Modern Languages)

Ruth Marie Hill, B.Ed. "A Study of Metaphysical Elements in the Poetry of Emily Dickson." (English) (in abs.)

Margaret Louise Loggie, B.A. "One Man in His Time."—A Novel. (English) (in abs.)

Romana Trylich, B.A. "The Reception of Thomas Mann in France 1924-1930." (German) (in abs.)

Samuel Obiba Kwamina Barnes, B.A. "The Fiscal Development of Ghana." (Economics)

Robert Douglas Hare, B.A. "An Investigation of the Relationship of the Level of Abstraction in Written Expression to Intellectual Ability and Academic Achievement." (Psychology)

Thomas, Alan Parry, B.A. "The Rorschach M. Response and Interest in People: A Validation Study." (Clinical Psychology)

Donald Watkins, B.Ed. "The Terminology of Justice and Rightfulness and their Antonyms in the Oldest *Chansons de Geste*." (French) (in abs.)

Rudy Henry Wiebe, B. A. "Peace Shall Destroy Many"—A Novel. (English) (in abs.)

Degree of Master of Education

Jean Elizabeth Robertson, B.Sc.(H.Ec.), B.Ed. "Some Administrative Problems Associated with Literacy Work in Ethiopia." (Educational Administration) (in abs.)

Sister Saint-Sylva, B.Sc.(Arts), B.Ed. "An Investigation of the Teaching of French in the Bilingual Schools of Alberta and Saskatchewan." "Secondary Education—French)

Edison Frederick Bardock, B.Ed. "A Study of Accreditation." (Educational Administration)

Sidney Axel Lindstedt, B.Sc.(Arts) "An Analysis of the Relationship Between Certain Qualifications of Grade IX Mathematics Teachers in Alberta Schools and the Results of Their Students in the Final Examination for the Year 1957-58." (Educational Psychology) (in abs.)

Arthur George McFaul, B.Ed., B.Sc.(Arts) "An Analysis of the Calgary Lag-gard Policy." (Educational Psychology) (in abs.)

Edwin McKenzie, B.Ed. "The Library Facilities and Reading Interests of Pupils in the Intermediate Grades in the Public Schools in a Small Urban Center." (Elementary Education) (in abs.)

William Reginald Morris, B.A., B.Ed. "An Analysis of the effects of Counselling and Group Guidance on Realism of Educational and Vocational Choice at the Grade Nine Level." (Educational Psychology) (in abs.)

Robert Cameron Ritchie, B.A., B.Ed. "A Survey of Selected Non-graded Elementary School Programs in Canada and the United States." (Elementary Education) (in abs.)

Degree of Master of Science

Eunice Jean Chesney, B.Sc.(Arts) "The Establishment of a Chemical Quanti-

- tative Method for the Determination of Urinary Estrogens and its Application to a Clinical Study." (Biochemistry) (in abs.)
- Walter Babowal, B.Sc.(Eng.) "The Analysis on Strain in Concrete Pavement Steel." (Civil Engineering)
- Bruce Livingston Baker, B.Sc.(Arts) "Determination of the Rate of Formation of the Nickel Complex of Pheophytin." (Physical Chemistry)
- Harry Gerard Basler, B.Sc.(Eng.) "The Coefficient of Thermal Expansion of Concrete." (Civil Engineering)
- Donald Grant Bellow, B.Sc.(Eng.) "Transverse Curvature of Plates Under Large Deflections." (Mechanical Engineering)
- George Bidulock, B.Sc.(Eng.) "Investigation of a Microwave Luneberg Lens." (Electrical Engineering)
- Christopher Hedley Bigland, D.V.M., D.V.P.H. "Studies on Chicken Blood Coagulation." (Physiology)
- Malcolm McKittrick Chase Collins, B.Sc.(Eng.) "Network Analyser Accuracy." (Electrical Engineering)
- Frederick Michael Connelly, B.Sc.(Agric.) "Dietary Protein Utilization and Thyroid Activity in Two Lines of Rats and Their Reciprocal Crossbreeds." (Animal Genetics)
- Leonard Domaschuk, B.Sc.(Eng.) "An Investigation of the Stabilization of Severy Sands and a Sandstone from Alberta Using Portland Cement." (Civil Engineering)
- Tibor Feket, B.Sc.(Eng.) "The Plugging Effect of Bacteria in Sandstone Systems." (Petroleum Engineering)
- Robert Kenneth Germundson, B.Sc.(Arts) "Wapiabi Biostratigraphy." (Geology) (in abs.)
- David Nicholas Graveland, B.Sc.(Agric.) "The Use of Gypsum in the Reclamation of Solonchic Soils." (Soil Science) (in abs.)
- Donald Rae Grekul, B.Sc.(Eng.) "The Decomposition Kinetics of Zinc-Aluminum Alloys." (Metallurgical Engineering) (in abs.)
- Colin Joseph Karasek, B.Sc.(Eng.) "Experimental Concrete Pavements in Alberta." (Civil Engineering)
- Heinz Josef Kraus, B.Sc.(Arts) "Staphylococcal Mastitis in Alberta Dairy Herds." (Bacteriology)
- Henry Nichols Kupszynski, B.Sc.(Eng.) "Load Tests on Glued Laminated Arches." (Civil Engineering)
- Donald Haughton Lennox, B.A. "Some Terrestrial Heat Flow Measurements in Alberta." (Geophysics)
- William Gordon Leslie, B.Sc.(Eng.) "Inelastic Properties of Concrete." (Civil Engineering)
- Frank Lukawski, B.Sc.(Eng.) "Elastic Instability of a Pony Truss Bridge." (Civil Engineering)
- Bruce Eugene McDonald, B.Sc.(Agric.) "Effect of Energy and Amino Acid Levels on Protein Requirements of Poultry." (Poultry Nutrition)
- Arthur Edward McMullen, B.Sc.(Eng.) "An Investigation into the Strength of Bolted Joints in Douglas Fir." (Civil Engineering)
- Mir Mohammed Omer, B.Sc.(Eng.) "The Horizontal Pipeline Flow of Air-Water Mixtures." (Chemical Engineering)
- Donald Bryce Remington, B.Sc.(Arts) "Precambrian Rocks of the Whistler's Mountain Trail Map - area, Jasper." (Geology)

- Walter John Ross, B.Sc.(Eng.) "Volume and Strength Changes in Soils Due to Frost Action." (Civil Engineering) (in abs.)
- Wilson George Sterling, B.Sc.(Eng.) "The Effect of Prestraining on the Transition Temperature of Mild Steel." (Civil Engineering)
- Glenn William Swift, B.Sc.(Eng.) "The Use of Network Analyser in Studying Restriking Voltage Transients." (Electrical Engineering)
- Donald John Taylor, B.Sc.(Eng.) "Further Studies in the Stress Strain Relationships of Lightweight Concrete." (Civil Engineering)
- Jacobus Petrus Verschuren, Ir. "Special Aspects of the Hydraulic Jump on a Sloping Floor." (Civil Engineering) (in abs.)
- Clarence Richard Winter, B.Sc.(Eng.) "Displacement of High Viscosity Oil by a Water-Driven Miscible Slug." (Petroleum Engineering) (in abs.)
- Reginald Kenneth Wood, B.E. "The Upward Vertical Flow of Oil-Water Mixtures: Effect on Second Phase Viscosity on Pressure Drop, Flow Pattern and Holdup." (Chemical Engineering)

Degree of Doctor of Philosophy

- Reginald Albert Moore, B.Sc.(Arts), M.Sc. "Ultrasonic Attenuation and Dispersion in Normal Metals at Low Temperatures and in Polycrystals." (Theoretical Physics)
- Walter Martin Wagerin, B.A., M.S.Ed. "A Descriptive Study of the Minimum Requirements for Graduation from Secondary Education in the Provinces of Canada in 1959." (Secondary Education Curriculum)
- Jean-Robert Weber, Dipl.Ing. "The Dosimetry of Small Beta Ray Sources and a Study of the Relative Biological Efficiency (RBE) of Strontium 90—Yttrium 90 Beta Rays on *Allium cepa* Roots." (Physics)

Table X—Student Registration

SECTION A—FULL TIME STUDENTS																
Division I—Edmonton Campus Arts and Science																
1st Year		2nd Year		3rd Year		4th Year		5th Year		Males		Females		Total		
59-60	F	59-60	F	59-60	F	59-60	F	59-60	F	58-59	59-60	58-59	59-60	58-59	59-60	
108	87	110	82	104	52	12	7	...	...	293	334	213	228	505	562	
183	37	209	35	137	32	19	4	...	...	533	548	114	108	647	656	
3	1	...	...	1	...	...	...	...	...	2	4	...	1	2	5	
36	2	22	5	...	...	...	...	...	...	60	58	6	7	66	65	
29	...	...	...	...	...	...	...	...	...	23	29	...	...	23	29	
...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
3	2	...	...	...	...	...	...	...	...	...	3	5	2	5	...	
1	3	2	3	...	...	...	...	...	...	1	3	2	6	3	9	
363	132	343	125	242	84	31	11	...	...	913	979	339	352	1252	1331	
Sub-Totals, Arts & Science																
37	...	38	...	19	...	15	...	...	...	107	109	...	...	107	109	
83	1	58	5	36	2	...	...	...	...	134	177	13	8	147	185	
37	...	30	...	24	1	29	...	...	...	108	120	2	1	110	121	
Education																
147	200	138	182	32	59	19	37	...	...	206	336	349	478	555	814	
...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	
...	...	...	...	...	...	81	24	...	...	49	81	33	24	82	105	
69	217	...	...	...	...	...	...	...	...	87	69	253	217	340	286	
216	417	138	182	32	59	100	61	...	...	343	486	635	719	978	1205	
Sub-Totals, Education																
Engineering																
39	...	107	...	78	1	68	...	...	...	278	292	2	1	280	293	
25	...	49	...	38	1	41	...	...	...	171	153	1	1	172	154	
39	...	128	...	79	...	48	...	...	...	230	294	...	...	230	294	
2	...	1	...	6	...	4	...	...	...	23	13	1	...	24	13	
2	...	11	...	18	...	17	...	...	...	72	48	...	...	72	48	
8	...	...	...	10	...	12	...	...	...	24	30	24	30	24	30	
...	...	1	...	...	...	...	...	...	...	2	1	...	...	2	1	
...	...	6	...	8	...	1	...	...	...	16	21	...	...	16	21	
6	...	38	...	45	...	21	...	...	...	61	125	...	...	61	125	
21	...	...	...	...	...	...	...	...	...	254	104	...	...	254	104	
104	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
246	...	341	...	282	2	212	...	...	...	1131	1081	4	2	1135	1083	
Sub-Totals, Engineering																
Household Economics																
...	29	...	26	...	12	...	...	...	...	...	...	62	67	62	67	

Table X—Student Registration—continued

	1st Year 59-60		2nd Year 59-60		3rd Year 59-60		4th Year 59-60		5th Year 59-60		Males 58-59 59-60		Females 58-59 59-60		Total 58-59 59-60	
	M	F	M	F	M	F	M	F	M	F	89	101	7	6	96	107
Law	43	...	28	5	30	1	...	...	...	...	...	...	...	...	...	...
Medicine	53	1	49	2	48	3	54	1	...	...	202	204	12	7	214	211
M.D.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
B.Sc. in Med.	1	22	...	15	...	...	...	...	...	...	...	1	17	37	17	38
B.Sc. in Med. Lab. Sci.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sub-Totals, Medicine	54	23	49	17	48	3	54	1	...	...	203	205	29	44	232	249
Nursing	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
B.Sc.	38	...	24	...	18	...	...	23	...	...	...	...	121	128	121	128
Diploma	130	...	104	...	87	...	...	...	...	...	...	...	314	321	314	321
Dip. in Pub. Health	...	...	...	...	...	...	...	...	...	...	1	...	19	20	10	10
Dip. in T. & S.	...	...	...	...	...	...	...	...	...	...	...	...	11	19	11	19
Sub-Totals, Nursing	168	...	128	...	105	...	23	...	...	...	1	...	465	478	466	478
Pharmacy	45	31	23	34	28	21	...	...	...	...	90	96	71	86	161	182
Physiotherapy	...	31	...	20	...	...	...	...	...	...	...	...	47	51	47	51
Physical Education	26	8	19	5	13	9	...	...	...	...	48	58	22	22	70	80
Graduate Studies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A.	...	...	...	...	...	...	...	...	...	...	34	33	19	22	53	55
M.Sc. (Arts)	...	...	...	...	...	...	...	...	...	...	34	45	3	...	37	50
M.Sc. (Agric.)	...	...	...	...	...	...	...	...	...	...	15	18	...	1	15	19
M.Sc. (Engin.)	...	...	...	...	...	...	...	...	...	...	50	61	...	...	50	61
M.Sc. (Pharm.)	...	...	...	...	...	...	...	...	...	...	41	60	14	14	55	74
M.Ed.	...	...	...	...	...	...	...	...	...	...	4	4	1	5	5	4
M.Sc. (Med.)	...	...	...	...	...	...	...	...	...	...	42	45	2	1	44	46
Ph.D.	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...
Ed.D.	...	...	...	...	...	...	...	...	...	...	61	75	8	...	66	83
Provisional Graduate	...	...	...	...	...	...	...	...	...	...	26	36	7	5	33	41
Special Graduate	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sub-Totals, Graduate Studies	...	...	...	...	...	...	...	...	...	...	307	381	51	56	358	437
Bachelor of Divinity	...	...	...	...	...	...	...	...	...	...	19	18	1	...	20	18
TOTALS EDMONTON CAMPUS	...	...	...	...	...	...	...	...	...	...	3493	3811	1748	1892	5241	5703

Division II—Calgary Campus

Arts and Science

B.A.	16	23	9	5	7	2	...	...	...	17	32	21	30	38	62
B.Sc.	49	13	20	1	1	...	...	...	...	51	70	6	14	57	84
B.A., I.L.B.	7	2	2	...	...	...	...	...	...	11	9	1	2	12	11
Pre dent	6	...	1	...	...	...	...	...	...	4	7	...	...	4	7
Sub-Totals, Arts & Science	78	38	32	6	8	2	...	...	...	83	118	28	46	111	164

Agriculture

...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	2
-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	---	-----	-----	-----	---

Commerce

...	18	...	...	...	...	...	...	...	...	18	18	2	...	20	18
-----	----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	---	-----	----	----

Education

B.Ed.	42	71	38	46	5	7	3	1	...	53	88	82	125	135	213
B.Ed. in Industrial Arts	10	...	18	...	6	...	1	...	...	28	35	...	...	28	35
B.Ed. after Previous Degree	...	...	...	...	...	...	11	6	...	13	11	5	6	18	17
Junior E	39	123	...	...	...	...	...	...	...	35	39	105	123	140	162
Sub-Totals, Education	91	194	56	46	11	7	15	7	...	129	173	192	254	321	427

Engineering

Civil	6	...	...	...	...	...	...	...	...	13	6	...	...	13	6
Chemical	7	...	...	...	...	...	...	...	...	14	7	...	...	14	7
Electrical	5	...	...	...	...	...	...	...	...	18	5	...	...	18	5
Petroleum	2	1	...	...	...	...	...	...	...	6	2	...	1	6	3
Engineering Physics	5	...	...	...	...	...	...	...	...	2	5	...	...	2	5
Mechanical	...	...	...	...	...	...	...	...	...	4	...	...	...	4	...
Not Specified	34	...	...	...	...	...	...	...	...	14	34	...	...	14	34
Sub-Totals, Engineering	59	1	...	...	...	...	...	...	...	71	59	...	1	71	60

Household Economics

...	...	2	...	...	...	...	...	...	...	...	...	...	2	...	2
-----	-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	---	-----	---

Nursing

B.Sc.	...	1	...	2	...	6	1	...	...	...	...	19	10	19	10
------------	-----	---	-----	---	-----	---	---	-----	-----	-----	-----	----	----	----	----

Physical Education

...	1	...	...	...	...	...	...	...	...	1	1	...	...	1	1
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TOTALS CALGARY CAMPUS

...	...	...	...	...	...	...	...	...	...	302	371	241	313	543	684
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GRAND TOTAL, SECTION A

...	...	...	...	...	...	...	...	...	...	3795	4182	1989	2205	5784	6387
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------

FULL TIME STUDENTS

Table X—Student Registration—continued

SECTION B—PART-TIME STUDENTS—DAYTIME CLASSES											
Division I—Edmonton Campus											
Arts and Science											
Agriculture											
Commerce											
Education											
Engineering											
Household Economics											
Nursing (B.Sc.)											
Pharmacy											
TOTALS—DIVISION I											
Division II—Calgary Campus											
Arts and Science											
Commerce											
Education											
TOTALS—DIVISION II											
GRAND TOTAL—SECTION B—PART-TIME STUDENTS—DAYTIME CLASSES											
SECTION C—PART-TIME STUDENTS—EVENING CREDIT PROGRAM											
Arts and Science											
Edmonton											
Calgary											
Camrose											
Grande Prairie											
Holden											
Red Deer											
Trochu											
Vegreville											
Westlock											
Wetaskiwin											
Total											
Agriculture											
Edmonton											
Total											

1st Year 59-60		2nd Year 59-60		3rd Year 59-60		4th Year 59-60		5th Year 59-60		Males 58-59 59-60		Females 58-59 59-60		Totals 58-59 59-60	
M	F	M	F	M	F	M	F	M	F	58-59	59-60	58-59	59-60	58-59	59-60
...	...	...	...	...	...	...	...	...	...	30	23	15	15	45	38
...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	1
...	...	...	...	...	...	...	...	...	...	11	11	16	16	27	27
...	...	...	...	...	...	...	...	...	...	9	4	...	...	9	4
...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1
...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1
...	...	...	...	...	...	...	...	...	...	5	17	...	...	5	17
...	...	...	...	...	...	...	...	...	...	55	60	34	33	89	93
...	...	...	...	...	...	...	...	...	...	15	16	10	11	25	27
...	...	...	...	...	...	...	...	...	...	3	3	...	1	3	4
...	...	...	...	...	...	...	...	...	...	32	39	66	33	98	72
...	...	...	...	...	...	...	...	...	...	50	58	76	45	126	103
...	...	...	...	...	...	...	...	...	...	105	118	110	78	215	196
...	...	...	...	...	...	...	...	...	...	32	46	27	23	59	74
...	...	...	...	...	...	...	...	...	...	9	9	5	7	14	16
...	...	...	...	...	...	...	...	...	...	1	...	2	...	3	...
...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...
...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	2
...	...	...	...	...	...	...	...	...	...	1	2	1	...	2	1
...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	3
...	...	...	...	...	...	...	...	...	...	2	3	...	...	2	3
...	...	...	...	...	...	...	...	...	...	2	2	...	...	2	2
...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
...	...	...	...	...	...	...	...	...	...	46	64	36	37	82	101
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...														

Commerce												
Edmonton	...	...	...	...	...	...	...	...	...	...	...	...
Calgary	...	...	...	...	...	...	...	...	...	...	...	...
Total	14	12	3	4	17	16						
Education												
Edmonton	118	129	187	223	305	352						
Calgary	31	49	66	67	97	116						
Barrehead	...	...	...	...	...	...						
Camrose	14	15	17	12	31	27						
Grande Prairie	4	...	7	...	...	...						
Holden	11	7	13	17	24	24						
Lethbridge	...	...	...	...	...	...						
Red Deer	26	14	30	17	56	31						
Trochu	...	...	...	...	...	...						
Vegreville	28	17	8	10	56	18						
Westlock	...	5	...	13	...	22						
Wetaskiwin	...	11	...	15	...	26						
Total	236	272	340	391	576	663						
Engineering												
Edmonton	...	3	...	...	...	3						
Household Economics												
Edmonton	...	...	1	...	1	...						
Camrose	...	...	1	...	1	...						
Vegreville	...	...	...	1	...	1						
Total	...	...	2	1	2	1						
Nursing												
Edmonton	...	...	2	1	2	1						
Calgary	...	...	1	...	1	...						
Total	...	...	3	1	3	1						
Bachelor of Divinity												
Edmonton	...	1	...	...	...	1						
Graduate Studies												
Edmonton	...	...	...	...	...	...						
M.A.	...	...	...	...	...	...						
Calgary	1	4	...	...	1	4						
M.Ed.	20	15	8	5	28	20						
M.Ed.	3	...	...	...	3	...						
Vegreville	...	...	...	...	...	...						
M.Ed.	...	1	...	...	...	1						
Total	24	20	8	5	32	25						
GRAND TOTAL—SECTION C												
	320	374	392	439	712	813						

Table X—Student Registration—continued

	1st Year		2nd Year		3rd Year		4th Year		5th Year		Males		Females		Totals	
	59-60	F	59-60	F	59-60	F	59-60	F	59-60	F	58-59	59-60	58-59	59-60	58-59	59-60
SECTION D—SPECIAL STUDENTS																
Regular Winter Session																
Edmonton	...	...	...	...	...	...	...	...	...	...	63	71	69	37	132	108
Calgary	...	...	...	...	...	...	...	...	...	...	12	11	5	11	17	22
Total	...	...	...	...	...	...	...	...	...	...	75	82	74	48	149	130
Evening Credit Program																
Edmonton	...	...	...	...	...	...	...	...	...	...	46	45	23	33	69	78
Calgary	...	...	...	...	...	...	...	...	...	...	8	3	5	6	13	9
Barhead	...	...	...	...	...	...	...	...	...	...	1	...	3	...	4	...
Camrose	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Holden	...	...	...	...	...	...	...	...	...	...	1	2	5	4	6	6
Lethbridge	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	2
Red Deer	...	...	...	...	...	...	...	...	...	...	2	3	1	3	3	6
Vegreville	...	...	...	...	...	...	...	...	...	...	3	2	...	...	3	2
Westlock	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Wetaskiwin	...	...	...	...	...	...	...	...	...	...	...	1	...	6	...	7
Total	...	...	...	...	...	...	...	...	...	...	61	59	38	53	99	112
GRAND TOTAL—SECTION D	...	...	...	...	...	...	...	...	...	...	136	141	112	101	248	242
GRAND TOTAL—PART I	...	...	...	...	...	...	...	...	...	...	4356	4815	2603	2823	6959	7638
PART II—SUMMER SESSION 1959																
Edmonton	...	...	...	...	...	...	...	...	...	...	966	1262	1258	1452	2224	2714
Banff School	...	...	...	...	...	...	...	...	...	...	3	7	16	25	19	32
University Credit	...	...	...	...	...	...	...	...	...	...	87	119	461	527	538	646
Non-credit courses	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL, PART II	...	...	...	...	...	...	...	...	...	...	1056	1388	1735	2004	2791	3392
PART III—SHORT COURSES 1959-60																
Diploma in Dairying	...	...	...	...	...	...	...	...	...	...	...	14	...	...	...	14
Diploma in Advanced Practical	...	...	...	...	...	...	...	...	...	...	...	...	7	11	7	11
Obstetrics	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL, PART III	...	...	...	...	...	...	...	...	...	...	...	14	7	11	7	25

Table XI—Distribution of Students According to Age and Sex

Age	Daytime Students		Evening Credit Program		
	Male	Female	Male	Female	Total
15	1	1			2
16	10	35			45
17	184	272		1	457
18	625	653		1	1279
19	687	508	4	9	1208
20	622	291	6	13	932
21	470	149	16	16	651
22	342	69	11	24	446
23	283	45	23	15	366
24	207	26	16	23	272
25	131	15	28	10	184
26	125	17	18	12	172
27	99	11	19	14	143
28	85	18	23	12	138
29	98	11	16	11	136
30	64	3	22	10	99
31	47	14	20	14	95
32	42	13	11	10	76
33	38	20	12	14	84
34	29	10	20	10	69
35	31	12	8	13	64
36	21	8	8	15	52
37	14	16	6	12	48
38	12	4	8	13	37
39	19	15	13	13	60
40	13	11	11	9	44
41	8	8	7	15	38
42	10	9	4	10	33
43	10	6	6	5	27
44	5	7	19	14	45
45	9	5	13	15	42
46	3	7	6	16	32
47	6	4	11	15	36
48	3	5	8	19	35
49	6	3	4	10	23
50	3	2	5	14	24
51	8	4	9	13	34
52	2	3	5	11	21
53	2	2	4	10	18
54	1	4	4	10	19
55	2	2	2	6	12
56		5	1	8	14
57		4	3	1	8
58			2	3	5
59	2		1	1	4
60	1	1			2
61	1	1			2
62		2		1	3
64	1				1
71				1	1
TOTALS	4382	2331	433	492	7638

Table XII—Classification of Students According to Religious Denomination
Session 1959-60

	Attending Edmonton		Attending Calgary		Evening Credit Program		Grand Total
	Male	Female	Male	Female	Male	Female	
Anglican	414	250	75	47	36	67	889
Baptist	138	64	23	25	11	27	288
Christian Science .....	.....	2	1	1	.....	3	7
Church of Christ	7	4	2	2	1	3	19
Church of Nazarene ...	12	7	1	4	3	4	31
Greek Catholic	72	35	2	1	9	2	121
Greek Orthodox	176	73	3	3	28	12	295
Hebrew	89	25	6	3	3	3	129
Latter Day Saint (Mormon)	108	42	11	13	12	9	195
Lutheran	229	101	31	18	32	22	433
Methodist	6	3	2	.....	3	.....	14
Presbyterian	104	68	19	12	6	18	227
Protestant (Church not specified)	34	12	7	4	10	8	75
Roman Catholic	628	287	69	58	81	78	1201
Russian Orthodox	3	.....	.....	.....	.....	.....	3
Seventh Day Adventist	4	2	4	.....	1	.....	11
Ukrainian Orthodox ..	51	29	1	1	11	6	99
United Church	1442	830	135	143	145	192	2887
Others	244	86	34	26	22	19	431
Not Specified	181	42	14	8	19	19	283
TOTALS OF COLS. ...	3942	1962	440	369	433	492	7638
Sub-Totals, Centres ...	5904		809		925		
GRAND TOTAL							7638

Table XIII—Distribution of Students According to Sex and Marital Status

	Male	Female	Total
Single	3555	2334	5889
Married	1251	440	1691
Divorced	4	17	21
Widowed	5	32	37
	4815	2823	7638

Table XIV—Distribution of Students According to Birthplace of Father
Session 1959-60

Father's Birthplace	Students Attending at Edmonton Daytime	Students Attending at Calgary Daytime	All Evening Credit Program
A. British Empire— Commonwealth			
(a) Canada:			
Alberta:			
Edmonton	299	18	19
Calgary	104	32	4
Lethbridge	26	6	.....
Medicine Hat	33	7	1
Red Deer	21	1	1
Vegreville	19	.....	1

**Table XVI—Distribution of Students According to Birthplace of Father
Session 1959-60—continued**

Father's Birthplace	Students Attending at Edmonton Daytime	Students Attending at Calgary Daytime	All Evening Credit Program
Wetaskiwin	32	1	.....
Camrose	14	1	.....
Cardston	17	3	.....
Grande Prairie	1	.....	.....
Others—On or N. of			
Twp. 38	481	9	24
S. of			
Twp. 38	293	66	10
Not specified	23	.....	.....
	1363	144	60
Canada—not otherwise specified	69	12	9
Newfoundland	19	1	1
Nova Scotia	77	15	13
New Brunswick	55	10	16
Prince Edward Island ...	24	4	10
Quebec	125	11	24
Ontario	470	69	116
Manitoba	282	37	23
Saskatchewan	335	56	12
British Columbia	74	10	4
Yukon and N.W.T.	1	.....	1
	1531	225	229
(b) Other Parts of British Empire—Commonwealth			
British Isles (incl. Eire)	808	163	163
Dominions (S. Africa, New Zealand, Australia)	19	.....	2
All other British colonies, Dependencies and Members of the Commonwealth	52	.....	2
	879	163	167
B. Countries Outside British Empire—Commonwealth			
United States of America ...	489	87	116
Poland and Czechoslovakia	276	27	47
Russia and Ukraine	370	40	88
Balkan States	59	4	7
Scandinavian States	197	21	39
Germany, Austria	296	41	63
France	14	1	5
Hungary	18	.....	1
China, Japan	110	10	12
Holland	56	14	8
Others	142	18	26
	2027	263	412
C. Information not specified ...	104	14	57
TOTALS	5904	809	925
GRAND TOTAL			7638

Table XV—Distribution of Students According to Father's Occupation

This table will appear only once in five years, the next occasion being the Report for 1962-63.

Table XVI—Distribution of First Year Students Not Previously in Attendance
According to Faculty and Home Address (Excluding Evening Credit Program)

ATTENDING EDMONTON

FACULTY	EDMONTON																	Total
	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Other (On or N of Twp. 38)	Others (S of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not Specified	
Arts and Science	239	22	4	4	11	1	5	1	4	...	87	55	1	15	1	...	...	450
Agriculture	4	2	1	1	1	2	...	...	...	1	13	8	...	2	7	...	...	34
Commerce	35	1	4	...	3	...	...	...	...	...	10	4	...	7	...	...	1	66
Education	126	2	7	16	6	9	5	3	4	5	326	67	1	14	1	...	2	593
Engineering	93	11	6	5	5	3	1	1	...	2	57	35	3	8	1	...	1	232
Household Economics	12	...	...	1	...	...	...	...	...	1	8	4	...	...	...	...	...	27
Physical Education	17	2	...	1	...	...	...	...	...	...	5	1	...	3	...	...	...	29
Physiotherapy	4	5	1	1	...	...	...	...	1	1	4	1	...	12	...	...	...	21
Medicine (Med. Lab. Sci.)	3	7	1	1	5	1	3	2	...	1	32	11	1	17	...	...	1	134
Nursing (incl. Diploma)	53	5	3	1	1	1	1	1	...	...	23	10	...	1	...	1	...	66
Pharmacy	17	9	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Totals	603	66	28	29	33	16	17	8	8	11	570	197	7	80	2	...	3	31681

ATTENDING CALGARY

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Table XVII—Distribution of Daytime Students According to Faculty and Home Address

ATTENDING EDMONTON

FACULTY	ATTENDING EDMONTON															Total		
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Other (On or N of Twp. 38)	Others (S of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont., Man., Sask., B.C., Y.T., N.W.T.,	British Commonwealth	U.S.A.		Other Countries	Not Specified
Arts and Science	668	143	24	10	27	3	9	9	9	2	209	177	12	58	3	2	8	1373
Agriculture	19	3	3	3	3	1	3	1	1	2	38	34	3	3	1	1	1	111
Commerce	95	20	7	4	4	1	1	1	2	2	30	12	14	14	2	1	1	188
Dentistry	43	6	1	1	1	1	1	1	1	2	10	5	5	51	2	1	1	121
Education	354	21	22	26	14	15	10	11	6	10	550	166	3	28	3	1	5	1242
Engineering	420	111	31	16	18	3	5	5	2	5	239	159	10	48	3	3	9	1087
Household Economics	28	2	2	1	1	1	1	1	2	2	17	12	2	2	3	2	8	68
Law	65	14	2	3	1	1	1	1	1	1	16	6	2	4	3	1	3	107
Physical Education	40	4	1	1	1	1	1	1	1	1	16	2	2	8	3	3	80	
Physiotherapy	9	9	2	2	2	1	3	3	3	3	26	27	6	20	6	6	51	
Medical Lab. Science	93	26	7	3	2	1	9	6	6	5	7	3	1	7	3	1	38	
Nursing	11	9	1	2	2	2	9	6	5	5	138	47	2	47	3	1	479	
Pharmacy	160	33	14	3	13	2	9	1	1	1	57	24	2	2	9	9	199	
Graduate Studies	80	20	6	2	3	1	1	1	1	1	34	19	25	30	49	9	437	
B.D.	225	27	4	4	3	1	1	1	1	1	2	2	1	4	5	2	18	
Special Students	76	3	1	1	1	1	1	1	1	1	4	2	1	1	1	1	94	
Totals	2393	455	122	70	92	28	38	41	24	29	1392	703	60	330	62	23	34	85904

ATTENDING CALGARY

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Table XVII—Distribution of Evening Credit Program Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY	EDMONTON																	Total
	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Other (On or N of Twp. 38)	Others (S of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont., Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not Specified		
Arts and Science	62	1	...	...	...	...	...	...	...	4	1	...	6	1	...	...	75	
Agriculture	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
Commerce	13	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	16	
Education	295	...	1	2	1	...	...	...	1	41	5	1	4	...	...	...	351	
Engineering	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	
Nursing	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Graduate Studies	22	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	24	
B.D.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Special Students	67	2	...	...	...	...	...	...	...	3	...	...	3	1	2	...	78	
Totals	463	6	1	2	1	...	...	...	1	50	8	1	13	2	2	1	551	

ATTENDING CALGARY

Arts and Science	1	14	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Education	...	91	...	1	...	...	...	...	...	...	5	12	2	4	1	...	...
Special Students	...	8	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Totals	1	113	...	1	...	...	...	...	...	...	5	13	3	4	1	...	141
																	16
																	116
																	9

ATTENDING HOLDEN

Arts and Science	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Education	...	...	...	1	...	...	...	...	...	...	1	22	1	...	...	...	1
Special Students	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	24
Totals	...	...	...	1	...	...	...	...	...	...	29	1	...	...	...	...	31

ATTENDING CAMROSE

FACULTY	Education											27							
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Other (On or N of Twp. 38)	Others (S of Twp. 38)	N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not Specified	Total

ATTENDING WETASKIWIN

Arts and Science							1					1						2
Education							10	1			14	1						26
Special Students							3	1			3							7
Totals							14	2			17	2						35

ATTENDING WESTLOCK

Arts and Science																		2
Education											2							18
Special Students				1							1							2
Totals				1							21							22

ATTENDING VEGREVILLE

Arts and Science																		3
Education						1					2	1						22
Household Economics						1					8							1
Graduate Studies											1							1
Special Students						2												2
Totals						16					12	1						29

ATTENDING RED DEER

	Arts and Science	Education	Special Students	Totals
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
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99				
100				

ATTENDING TROCHU

[illegible]

ATTENDING LETHBRIDGE

[illegible]

Table XIX—1959-60 Home Address and Birthplace, First Year Students Not Previously in Attendance (Excluding Evening Credit Program)

	Attending at:			
	Edmonton		Calgary	
	Home Address	Birth-place	Home Address	Birth-place
(a) Canada:				
Alberta:				
Edmonton	614	369	3	11
Calgary	67	80	255	134
Lethbridge	32	49	7	19
Medicine Hat	29	22	11	13
Red Deer	35	20	.....	1
Vegreville	16	41	.....	.....
Wetaskiwin	17	38	.....	.....
Camrose	8	16	.....	1
Cardston	8	18	4	6
Grande Prairie	11	14	.....	1
Others (on or N of				
Twp. 38)	579	437	7	15
(S of Twp. 38) ...	198	168	160	97
Not specified	3	1	.....	.....
	<u>1617</u>	<u>1273</u>	<u>447</u>	<u>298</u>
Nova Scotia .....	.....	9	.....	3
Prince Edward Island .....	.....	2	.....	.....
New Brunswick .....	.....	1	.....	1
Quebec	5	20	.....	2
Ontario	4	48	.....	14
Manitoba	2	41	.....	16
Saskatchewan	58	166	7	58
British Columbia	30	49	5	13
Yukon and N.W.T.	6	3	.....	.....
	<u>105</u>	<u>339</u>	<u>12</u>	<u>107</u>
(b) British Isles, British Colonies etc.	2	42		16
(c) Countries outside British Empire-Commonwealth	5	75		38
	<u>1729</u>	<u>1729</u>	<u>459</u>	<u>459</u>
GRAND TOTAL				<u>2188</u>

Table XX—Home Address and Birthplace, Daytime Students, 1959-60

Attending at:				
	Edmonton		Calgary	
	Home Address	Birth-place	Home Address	Birth-place
(a) Canada:				
Alberta:				
Edmonton	2394	1195	9	22
Calgary	455	388	499	220
Lethbridge	122	167	14	36
Medicine Hat	70	70	11	20
Red Deer	92	66	2	4
Vegreville	28	75	.....	2
Wetaskiwin	38	64	.....	.....
Camrose	41	65	.....	1
Cardston	24	51	4	9
Grande Prairie	29	52	.....	2
Others (on or N of Twp 38)	1392	1252	17	23
Others (S of Twp 38)	703	594	217	168
Not specified	7	5	.....	.....
	—5395	—4044	—773	—507
Canada (not otherwise specified)	1	4	.....	.....
Newfoundland	5	6	.....	1
Nova Scotia	4	20	.....	6
Prince Edward Island .....	.....	2	.....	.....
New Brunswick	4	12	1	3
Quebec	23	58	.....	4
Ontario	24	147	4	30
Manitoba	29	162	2	30
Saskatchewan	186	576	16	94
British Columbia	102	190	9	27
Yukon and N.W.T.	13	6	.....	1
	—391	—1183	—32	—196
(b) British Isles, British Colonies	62	230	.....	34
(c) Countries outside British Empire-Commonwealth	56	445	4	72
(d) Not specified .....	.....	2	.....	.....
	—5904	—5904	—809	—809
GRAND TOTAL				6713

Table XXI—Distribution of Students According to Pattern, Honors or Branch

	1st Year		2nd Year		3rd Year		4th Year		Unclassified		Total	
	58-59	59-60	58-59	59-60	58-59	59-60	58-59	59-60	58-59	59-60	58-59	59-60
Arts and Science												
B.A.—Pattern												
English	28	42	25	31	15	20	...	...	...	...	68	93
Music	7	3	3	7	2	5	...	...	...	...	12	15
Foreign Language or Literature	22	27	9	18	6	8	...	...	...	...	37	53
History	30	36	44	35	24	40	...	...	...	...	98	111
Philosophy	17	11	1	1	6	3	...	...	...	...	24	21
Economics	16	13	27	25	30	22	...	...	...	...	73	60
Art	3	8	1	4	3	...	...	...	...	...	7	12
Political Science	5	6	6	6	1	...	...	...	...	...	12	16
Geography	3	11	4	1	3	4	...	...	...	...	10	16
Drama	6	8	2	7	3	2	...	...	...	...	11	17
Sociology	10	22	8	12	6	10	...	...	...	...	24	44
Psychology	53	48	35	50	37	34	...	...	...	...	125	132
No pattern	...	4	2	2	1	3	...	...	...	...	3	9
B.Sc.—Pattern												
Chemistry	66	64	25	45	28	25	...	...	...	...	119	134
Mathematics	12	19	9	14	7	8	...	...	...	...	28	41
Physics	40	22	11	23	4	11	...	...	...	...	55	56
Geology	37	13	16	21	40	21	...	...	...	...	93	55
Botany	4	9	3	1	...	2	...	...	...	...	7	12
Entomology	...	3	...	...	...	1	...	...	...	...	3	4
Zoology	61	44	50	52	27	24	...	...	...	...	138	120
Special B.Sc. Course	6	8	13	8	5	6	...	...	...	...	24	22
Experimental Psychology	16	95	9	11	3	8	...	...	...	...	28	107
Geography	1	1	1	1	...	...	...	...	...	...	2	2
General Science	19	31	21	23	19	23	...	...	...	...	59	77
No pattern	1	4	...	6	...	7	...	...	...	...	1	17
Engineering												
Civil	39	39	119	107	74	78	59	68	...	...	291	293
Chemical	39	25	62	49	51	38	34	41	...	...	186	154
Electrical	52	39	97	128	62	79	37	48	...	...	248	294
Mining	4	2	9	1	4	6	7	4	...	...	24	13
Petroleum	11	2	24	11	21	18	22	17	...	...	78	48
Engineering Physics	6	8	2	...	12	10	6	12	...	...	26	30
Engineering Geology	2	2	...	1	...	...	...	...	...	...	2	1
Metallurgical	1	6	5	...	3	8	7	1	...	...	16	21
Mechanical	13	21	33	38	19	45	...	21	...	...	65	125
Not specified	268	104	...	...	...	...	...	...	...	...	268	104
Honors												
Biochemistry	3	...	2	2	5	...	1	...	...	...	10	3
Botany	...	...	...	...	...	1	...	...	...	...	1	1
Chemistry	20	16	12	16	4	11	5	4	...	...	41	47
Classics	...	1	...	...	2	2	...	1	...	...	2	4

Conservation Biology	1	1	1	2	2	3	2	7	2	37
English	9	7	11	4	8	16	6	1	1	19
Geology	4	2	8	4	8	16	2	3	5	23
History	12	9	11	11	9	4	2	2	34	8
Mathematics	5	3	7	1	4	8	5	3	12	31
Modern Languages										
Philosophy										
Psychology										
Physics	21	19	11	3	2	1	1	3	21	11
Economics				18	1	8	5	6	5	6
Zoology	2	2	2	4	2	7	7	7	44	7
Physics and Geology	3	2	2	2	2	2	1	3	6	11
Physiology	1	2	1	1	1	1	1	1	4	15
Political Science				2					4	3
Geography		1		1			1		1	3
Graduate Studies										
Civil Engineering										
Chemical and Petroleum Engineering										
Electrical Engineering										
Biochemistry										
Botany										
Chemistry										
Classics										
English										
Entomology										
Geology										
History										
Mathematics										
Modern Languages										
Philosophy and Psychology										
Physics										
Political Economy										
Zoology										
Physiology and Pharmacology										
Anatomy										
Animal Science										
Bacteriology										
Dairying										
Education										
Medicine and Clinical Medicine										
Mining and Metallurgy										
Paediatrics										
Pharmacy										
Plant Science										
Soil Mechanics										
Soil Science										
Surgery and Clinical Surgery										
Not specified										

Table XXII—Degrees and Diplomas Awarded

DEGREES AWARDED				DIPLOMAS AWARDED			
	Fall 1959	Spring 1960	Total		Fall 1959	Spring 1960	Total
ARTS and SCIENCE							
B.A.	38	125	163	Licentiate in Music	1	...	1
B.Sc.	23	111	134	Associate in Musis	3	2	5
			297	Diploma in Art	...	...	...
AGRICULTURE							
B.Sc.	2	13	15				
COMMERCE							
B.Com.	6	33	39				
DENTISTRY				Nursing	69	28	97
D.D.S.	...	28	28	Teaching and Super- vision	...	14	14
EDUCATION				Public Health Nursing	...	9	9
B.Ed.	207	95	302				120
B.Ed. in Industrial Arts	4	3	7				
			309				
ENGINEERING							
B.Sc. in Chemical Engineering	5	37	42	Physiotherapy	22	...	22
B.Sc. in Civil Engineering	4	62	66				
B.Sc. in Electrical Engineering	4	39	43				
B.Sc. in Metallurg- ical Engineering	...	2	2				
B.Sc. in Mechanical Engineering	...	19	19				
B.Sc. in Mining Engineering	2	4	6				
B.Sc. in Petroleum Engineering	...	12	12				
B.Sc. in Engineering Physics	...	12	12				
			202				
HOUSEHOLD ECONOMICS							
B.Sc. in Household Economics	1	7	8				
B.H.Ec.	...	...	...				
LAW							
LL.B.	2	24	26				
MEDICINE							
M.D.	1	49	50				
B.Sc. in Medicine	1	...	1				
NURSING							
B.Sc.	1	23	24				
PHARMACY							
B.Sc.	3	44	47				
PHYSICAL EDUCATION							
B.P.E.	7	10	17				
B.Ed. in Physical Education	...	...	...				
PHYSIOTHERAPY ..	...	...	...				
GRADUATE STUDIES							
M.A.	7	9	16				
M.Sc.	23	31	54				
M.Ed.	20	8	28				
Ph.D.	...	3	3				
D.Sc.	1	...	1				
B.D. COMMITTEE							
D.B.	...	4	4				

Report of Dean C. F. Bentley of the Faculty of Agriculture

1. Academic

There have been several important staff changes in the Faculty of Agriculture during the past year. Dr. J. D. Newton and Dr. J. E. Bowstead, each of whom have served the University for over 35 years, retired in August, 1959. Dr. Newton's retirement was advanced a year at his own request so as to enable him to accept a second tour of duty for the Food and Agriculture Organization in Indonesia. Dr. J. A. Toogood succeeded Dr. Newton as Head of the Department of Soil Science. In the Animal Science Department Dr. J. M. Asplund has been appointed to fill the position resulting from Dr. Bowstead's retirement. Dr. A. G. Ball of Iowa State University has been appointed to the new position of Professor of Farm Management and will take up his duties in July, 1960. Other staff appointments include Dr. W. T. Andrew as Associate Professor of Horticulture, Dr. W. P. Skoropad as Assistant Professor of Plant Pathology, Dr. S. Pawluk and Dr. G. R. Webster as Assistant Professors of Soil Science whose special interests are Pedology and Soil Chemistry respectively.

Two of the Faculty's Staff members have been on sabbatical leave in Britain. Dr. L. P. V. Johnson has been at the School of Biometrical Genetics of Birmingham University where he has been pursuing his research work and studies in that field. Dr. J. P. Bowland has been at the National Institute for Research in Dairying, University of Reading, where he has done work on copper metabolism in young pigs utilizing Cu^{64} as a tracer.

The enrolment of undergraduate students in the Faculty has increased in the last two years when the number of first year students has been the largest in approximately ten years. The number of graduate students continues to increase, with a total of thirty-five in the departments of the Faculty this past year. Since over half of these graduate students seek the Ph.D. their number is indicative of the increasing stature as well as scope of the graduate study in the Faculty.

The initiative of the Department of Plant Science has resulted in the establishment of an honors program in genetics. This is a diverse field and in addition to the genetics courses offered by the Department of Plant Science the new program includes courses in animal genetics offered by the Department of Animal Science and a course in human genetics from the Faculty of Medicine. Two students have already registered for this new honors program.

2. Research

The research activities of the Faculty's staff members is highly varied and very extensive. However, each department has some research interests which are currently paramount.

In accordance with the program of undergraduate specialization "Industrial Agriculture", the Department of Agricultural Engineering is interested in applications of business procedures to farm activities. The Department is doing research on "standard times" for important farm operations with a view to providing authoritative data of a type not now available.

The Department of Animal Science has nutritional research projects concerned with swine, cattle, sheep, and poultry. Determination of the nutritional value of forages poses practical and scientific problems of great

complexity. Some of the Department's nutritional research is based on the use of an artificial rumen technique to study the digestive processes as they relate to forage crops. In the Poultry Division a radioactive isotope is being used in nutritional studies designed to determine the effects of rapeseed oil meal on the thyroid gland and its activity.

The Dairy Science Department is studying the basic structure and composition of butter in order to obtain information required for an attack on practical problems associated with butter processing and use. Assisted by some co-operating farmers in the vicinity of Edmonton, the Department is investigating simpler methods of cleansing and handling dairy farm equipment.

Fires attract certain types of insects which exhibit rather remarkable resistance to heat. The Department of Entomology is studying these insects in an endeavor to determine why the insects concerned are attracted and how they withstand so much heat. The vast numbers and types of mosquito are also being studied in the hope that information useful in control programs will be obtained.

In recent years the Crop Ecology Division of the Department of Plant Science has been very active in herbicide investigations. Assisted by the results of some of that research work, two chemicals to be used specifically for wild oat control have now been authorized for farm use. Plant breeding work has developed two promising strains of barley which are now being included in the national barley tests as a final step in determining whether they are to become licensed varieties.

Determination of the proportions of organic phosphorus and of mineral phosphorus in several Alberta soils is the goal of work in progress in the Soil Science Department. The various processes of soil formation have been found to affect soil organic matter and very different proportions of several organic matter constituents have been found in soils which to casual examination appear similar. Soil fertility investigations correlating field experiments, greenhouse cropping and soil testing are providing data which may enable more reliable fertilized recommendations for Alberta farmers.

There has been an increase in the number of research projects which involve two or more departments in the Faculty. Arrangements have been made for a central laboratory for radioactive tracer work in the Faculty and the National Research Council has provided a grant for the purchase of an amino acid analyzer which will be used by the Departments of Animal Science, Plant Science, and Soil Science.

The foregoing brief references to research projects do not adequately reflect the amount or calibre of work being done. The departments of the Faculty have received the equivalent of approximately \$147,400 in the form of grants, equipment, or supplies for various research projects. About \$29,500 of this amount has been received from commercial sources. The encouragement and very substantial assistance provided by these many grants are very much appreciated and gratefully acknowledged.

3. Professional Activities

A few examples will give some indication of the great variety of activities of a professional nature with which the Faculty's staff has been associated. F. V. MacHardy presented a paper to the American Society of Agricultural

Engineers at Chicago which one reporter labelled as the most rewarding one given. L. W. McElroy was a special guest lecturer at the Stockman's Short Course at Pulman, Washington. All staff members of the Department of Animal Science participated in the Ninth Annual Meeting of the Associate Committee on Animal Nutrition, National Research Council. F. W. Wood attended the triennial International Dairy Congress in London, England, and presented a paper. B. Hocking is president of the Entomological Society of Canada and has given numerous CBC talks and commentaries. A. W. Henry, by invitation, read a paper at the joint symposium of phytopathology and microbiology of the International Botanical Congress, Montreal. John Unrau, President of the Genetics Society of Canada, and three other members of the Plant Science Department presented papers at the Society's meetings in Vancouver. D. L. Lynch presented a paper on soil organic matter to the Soil Science Society of America meeting in Cincinnati.

Other professional activities of the Faculty's staff are too numerous to classify. Contributions have been made to local, provincial, regional, national, and international meetings, societies, and committees. During the past six months there have been over twenty-five journeys outside of the province in connection with these activities.

4. Extension

The pressure of extension demands continues to mount. In addition to individual letters which now number in the thousands per year, the number of telephone inquiries reaching the Faculty is increasing. Horticulture, Entomology, Crop Ecology, and Plant Pathology receive the largest numbers of calls and special assistance has been necessary to help with the first two subjects. There are also a considerable number of individual interviews and since these are frequently more than a quarter of an hour in duration they are very time consuming. Identification and diagnostic work in Crop Ecology, Entomology, and Plant Pathology has also increased in recent years.

There have been numerous other extension activities. Press releases concerning seasonal recommendations, research findings, and bulletins issued have been many. Staff members have participated in a variety of short courses and have been speakers on many other occasions. There has been a considerable number of radio and television contributions too. The annual Field Day at Breton had an attendance of 250-300 and there were over 1,500 at Feeders' Day. Other audiences to which members of the Faculty have spoken during the year include a total of more than 10,000 persons.

Nine bulletins or circulars, totalling approximately 75,000 copies, were printed during the year. In addition the staff of the Faculty made major contributions to the Alberta Farm Guide, a new joint publication of the Alberta Department of Agriculture, the Canada Department of Agriculture, and the Faculty of Agriculture, University of Alberta. There are 200 pages in this new authoritative handbook and 30,000 copies were printed.

Extension activities are very valuable in the field of public relations. They are also helpful in maintaining contact with practical problems throughout the province. However, in several cases the volume of extension work is now seriously affecting the research work of staff members.

In concluding this report I wish to acknowledge with sincere thanks

the cheerful and effective co-operation and assistance which I have received from all members of the Faculty's staff throughout the past year.

Report of Dean D. E. Smith of the Faculty of Arts and Science

I have the honor to present a report dealing with the activities of the Faculty of Arts and Science for the session 1959-60.

1. *Registration:*

The Registrar has presented detailed figures of registration in this Faculty, which can be supplemented by comment on noteworthy trends. Registration in the first year of all programs remained at the high level set last year; and the total registration increased considerably, as the large groups of new students of the last two sessions moved into the senior years of their programs. An increase in the students registered in the Faculty at the University of Alberta in Calgary came about because of the introduction of the second year there. Registrations in the Evening Credit Program continue to increase.

2. *Degrees and Diplomas:*

The number of students recommended for degrees is as follows:

	October 1959	May 1960	Total
B.A.	30	.....	.....
B.Sc.	20	.....	.....
Diploma in Art .....	.....	.....	.....

3. *Progress during the Session:*

(a) *Administration:* Professor F. D. Blackley, of the Department of History, has served as Secretary of the Faculty for some years; during this session he was appointed Assistant Dean. Mr. J. J. Stewart, a graduate of this University, has been appointed full-time Secretary of the Faculty. These staff changes are designed to cope with the rising tide of administrative work, much of it involving detail, which has been the inevitable concomitant of increased registration.

During this session, the Council of the Faculty appointed a large committee, under the chairmanship of Dr. W. G. Hardy, to review the curriculum of the general course. It has presented a progress report, and a final report is expected during the next session.

One development during the year epitomizes the growth of the University and the Faculty: it is the creation, on April 1st, 1960, of a separate department of Psychology. Since the appointment of Professor J. M. MacEachran in 1909, instruction in psychology has been the responsibility of the Department of Philosophy. Over the years the union of these two disciplines in the Department of Philosophy and Psychology has been a matter of tradition and administrative convenience. With the addition of Sociology to its responsibilities, though not its title, and with heavy student enrollment and expansion of staff, administration of this department became anything but convenient. Both its size and its special problems of administration made Psychology the division chosen for the status of a separate department this time.

(b) *New Degree Programs:* A new Honors Program in Genetics was approved during the session, at the request of the Department of Genetics. This program is designed to build intensive training in Genetics on a foundation of the basic sciences.

(c) *Calendar Changes*: There were a number of changes to modify the content of courses or to clarify their description. Many of these changes are particularly significant since they represent steps in the growing independence of the University of Alberta in Calgary. Some courses are given there with a different emphasis or even a changed content; and some new courses are offered only on that campus.

The following new courses were approved:

Biochemistry	501—Advanced Laboratory
	541—Biochemistry of Lipids
Chemistry	587—Infrared and Raman Spectra
	673—Physical Chemistry
	611—Analytical Chemistry
	631—Inorganic Chemistry
	651—Organic Chemistry
	653—Organic Chemistry
	671—Physical Chemistry
English	344—Seventeenth Century Poetry and Prose
	393—The History of Literary Criticism
Fine Arts	
Drama	270—Stagecraft
	465—Advanced Voice and Speech
	390—Production
	370—Design for the Theatre
	450—Styles of Acting
	550—Advanced Acting
	580—Advanced Directing
	470—Advanced Design and Technical Practice
	590—Production Thesis
Music	100—An Introduction to Concert Music
	203—An Instrumental Class in Principles and Practice of Woodwind Instruments
	301—An Instrumental Class in the Study of Brass, Woodwind and Stringed Instruments
	303—An Instrumental Class in the Principles and Practice of Stringed Instruments
	353—A Class in Orchestration
	401—A sequent course to Music 301
	403—An Instrumental Class in the Principles and Practice of Brass Instruments
	405—Acoustics of Music
	453—A Class in Advanced Orchestration
	460—Composition
	500—Music of the Baroque
	503—Repertory of First Practical Subject
	513—Repertory of First Practical Subject
Music	523—Repertory of First Practical Subject
Genetics	532—Human Genetics
Geography	200—General Geography
Geology	461—Geology of Petroleum, Natural Gas and Coal
Geology	464—Introductory Sedimentary Petrology
Geology	508—Precambrian Geology

- History 352—The British Empire and the Commonwealth
526—The British Empire and Commonwealth since 1815
- Mathematics 421—Differential Equations
422—Advanced Calculus
425—Modern Algebra
552—Advanced Electro-Magnetic Theory
651—Advanced Relativity Theory
- Modern Languages
- French 200 Su.—First Year University French (Banff)
- Russian 320—Selected Prose, Poetry and Drama of the Nineteenth Century
350—Russian Literature in English
- Spanish 320—Contemporary Prose and Composition
- Ukrainian 360—Survey of the History of Ukrainian Literature Since the Eighteenth Century
- Linguistics 460—Field Methods in Linguistics (Summer Session)
- Philosophy 260—Introduction to Logic and the Theory of Knowledge
- Physics 242—Physical Properties of Matter, Heat and Sound
478—Introduction to Cosmological Physics
572—Nuclear Physics
640—Advanced Electromagnetic Theory
654—Applications of Group Theory to Quantum Mechanics
680—Radio Astronomy
- Psychology 336—Individual Differences
352—Developmental Psychology
364—Learning
534—Experimental Design
580—The Study of the Individual
- Physiology 463—Human Physiology
- Sociology 305—Culture and Language (Summer School of Linguistics)
- Zoology 408—Mammalogy
452—Principles of Parasitism
462—Terrestrial Ecology
464—Limnology
520—Seminar in Zoology
529—Special Problems in Zoology
555—Wildlife Parasitology
565—Principles of Conservation and Wildlife Management
625—Field Course in Zoology
- Statistics 305—Introduction to Behavioral Statistics
- Courses deleted from the calendar were:
- Zoology 460—Taxonomy
568—Taxonomy of Birds and Mammals of the World: Life Histories of American Species

(d) *Leaves of Absence*: Dr. A. A. Gibb, of the Department of Mathematics in Calgary, was granted leave of absence to permit him to carry on advanced study and research at Stanford University. Leave was also granted to Dr. E. J. H. Greene, of the Department of Modern Languages, to provide for research in universities and libraries in France.

(e) *Staff Changes:* Dr. I. N. Baker, of the Department of Mathematics, resigned during the session.

For the second year in succession, there was a very large increase in staff. Dr. G. A. MacLachlan joined the Department of Botany, and Dr. F. W. Birss joined the Department of Chemistry. The Department of English experienced an unusually large increase with the reappointment of Dr. J. Bilsland and the appointment of Mr. D. F. Chapin, Dr. D. H. Stewart and Mr. W. C. Strange. The Music Division of the Department of Fine Arts added Mr. R. A. Stangeland to its staff. The Department of History enjoyed proportionally great expansion through the appointment of Dr. R. W. Beachey, Dr. L. Hertzman and Mr. A. Murray. The Department of Modern Languages also experienced a large increase when Dr. A. Arnold, Dr. A. P. Scott and Dr. J. Szoverffy joined the German Division, and Miss C. Colter joined the French Division. Dr. L. Lorch and Dr. J. R. McGregor were appointed to the Department of Mathematics, Mr. R. W. Longley was appointed jointly to the Departments of Mathematics and Geography, and Miss Z. M. Hyduk advanced from a sessional to a permanent appointment in Mathematics. Dr. R. C. Miles joined the Department of Philosophy and Psychology in the Psychology Division, and Dr. P. P. Rempel was appointed jointly to this Division and to the staff of the Director of Student Advisory Services. Dr. G. K. Hirabayashi and Dr. J. A. Hostetler joined the Sociology Division of the same Department. The Department of Physics experienced a large increase when Dr. C. C. L. Cumming, Dr. W. K. Dawson, Dr. G. C. Neilson and Dr. S. B. Woods were appointed. Dr. M. J. Boote rejoined the Economics Division of the Department of Political Economy, and Mr. T. L. Powrie was appointed to that Division. Dr. W. A. Fuller and Dr. J. C. Holmes were added to the Department of Zoology.

At the University of Alberta in Calgary, additions to the staff of this Faculty were more numerous than in any previous year. Dr. P. J. Kreuger was appointed to the Department of Chemistry. Professor M. H. Scargill of the Department of English, Edmonton Campus, transferred to the Calgary section of that Department. Two staff members who had previously assisted as part-time instructors, Dr. T. A. Oliver in Geology and Mr. P. J. Smith in Geography, were appointed to the permanent staff in those subjects. The Department of History obtained Dr. F. G. Heyman for a senior appointment. In the Department of Mathematics, Dr. J. E. L. Peck and Dr. M. Takeo joined the staff. Mr. Alvin Harms was appointed to the Department of Modern Languages, and Miss G. L'Abbe was advanced from a sessional to a permanent appointment in that Department. Dr. R. C. B. Hartland-Rowe joined the Department of Zoology.

4. *Departmental Reports:*

Botany

The establishment of the Botanic Garden and Field Laboratory by the Board of Governors during the current year marked a milestone in the development of the Department of Botany. A tract of eighty acres of beautiful woodland near the town of Devon, southwest of Edmonton, was presented to the University by Col. H. A. Dyde, Q.C.

The President named as Director of the Botanic Garden, Dr. J. H. Whyte, who will work with an advisory board. Acquisition of the land came late in the fiscal year of the University, necessitating development on a

modest scale during the first year. Despite this restriction, considerable development took place; a survey was made, major areas of botanical interest were identified and plans laid for future growth. Some ornamental construction was accomplished and a start was made with the planting program.

The functions and aims of the botanic garden project are:

- (1) To preserve a woodland area in its relatively undisturbed condition. The area becomes a field laboratory where students of botany can study the vegetation of Alberta and where professional botanists can carry out taxonomic, ecological, genetic and other kinds of research.
- (2) To maintain as large a collection of living plants as possible. The collection will emphasize plants native to Alberta and those from comparable areas of the world that are proven to be hardy in Alberta.
- (3) To foster an interest in botany by providing various services to students and to the general public.

The Ninth International Botanical Congress held in Montreal during the late summer brought several responsibilities and activities for members of the Department. Several pre-Congress tours took groups of internationally-famous botanists to various parts of Canada in June and July, and one group of twenty-five persons came to Edmonton to visit the Department of Botany. All members of the Department attended the Congress in Montreal. Papers, symposia, and discussions were contributed by all the University of Alberta botanists. Formal papers were presented by Dr. R. G. H. Cormack, Dr. Eleanor Keeping and Mr. John Packer.

Dr. Gordon A. MacIachlan, who joined the staff of the Department in September, 1959, has recently been elected to the National Research Council Sub-committee on plant physiology.

Although continued expansion and reorganization demanded much of the time and effort of members of the botany staff during the year, research prospered. Dr. Cormack continued his investigations on the development of the root hairs of higher plants, especially on the effects of such chemical substances as disodium versenate. Dr. Eleanor Keeping collaborated with Dr. Jan Weijer of the Department of Plant Science in a study of the structure of the nuclei of the fungus *Neurospora*. Mr. John Packer studied specimens of the genus *Chrysosplenium* sent from many of the great Herbaria of the world. This work has resulted in his being asked to contribute a definitive publication on these plants for the Flora of Europe. Dr. Kennedy continued her investigation of taxonomic problems in the fungi of the family *Dacrymycetaceae* and published a revision of these as well as a monograph on the genus *Dacrymyces*. Dr. Whyte directed the Department's work on plant introduction and hardiness tests. About three thousand species and varieties of plants are now in culture and being moved to a permanent location in the newly-acquired Botanic Garden. During the summer Dr. Whyte also extended his work on the pre-treatment of tomato seedlings designed to secure early ripening of fruits. Dr. Brodie undertook the identification of a large collection of fungi of the family *Nidulariaceae* for the Science Institute of Jamaica. He also studied experimentally the genetics of sexuality in a rare fungus obtained as living material from the Island of Annobon, in Equatorial Africa.

Research in the Department was supported by National Research Grants to

Drs. Cormack, Brodie, Keeping, Maclachlan and by grants from the General Research Fund of the University to Dr. Whyte and Mr. Packer.

Teaching, especially at the elementary level, was a big responsibility for the Department. Enrollment in beginning classes was larger than in previous years; a marked increase in the number of students enrolled in the Botany pattern took place.

The Department established contact several times during the year with High School Teachers of biology. In December, an evening open house was held for high school teachers and was attended by twenty-five persons. In March, Dr. Brodie and Dr. Hocking (Entomology) participated in a "workshop" for biology teachers held in Lacombe. During the year, seven groups of school students were conducted through the Department.

A number of public lectures and other kinds of public service were provided by members of the Department. These included: three public lectures, five radio talks for CKUA, four radio talks for CBC. Department members participated in the activities of a variety of professional and similar societies. Dr. Cormack lectured at the Provincial Forestry Training School in Kananaskis and participated in the Second Annual Alberta Resources Conference in Edmonton. Dr. Whyte presented a paper at the meeting of the Western Canadian Society of Horticulture at Saskatoon. Dr. E. S. Keeping attend the meeting of the Canadian Society of Microbiologists in Vancouver (June) and presented a paper.

Members of the Department served on seventeen campus committees and on six committees of a provincial or national nature.

Evening Institute Classes in elementary botany were offered on the Calgary campus. Mr. Prince carried out research concerning the lichens of Alberta.

Chemistry

During the present report year, enrollment in the Graduate School in Chemistry has increased by nearly 50% over the preceding year. This department is now considered as one of the four major graduate schools in chemistry in Canada.

Modern chemical research relies heavily on complex instrumentation. This year, a second mass spectrometer has been added to the mass spectrometry laboratory, with which isotopic analyses can be performed, as well as a broad range of chemical analyses. For analyses in the solid phase, an X-ray diffraction unit has been purchased. This instrument is proving particularly valuable for the research programs in progress in inorganic chemistry.

The Department has been steadily expanding its facilities in gas-liquid chromatographic methods of analysis and purification. New temperature-programmed units have been acquired, for the analysis of compounds of low volatility. Preparative-scale units are now in operation for isolating useful quantities of ultra-pure compounds for research purposes. In addition, a number of special purpose, chromatographic instruments of high-sensitivity have been fabricated for measuring extremely small quantities of reaction products. With these instruments it has proved possible to solve research problems which have been hitherto experimentally inaccessible.

With the appointment of Dr. F. W. Birss, the Department has begun the development of a program in theoretical chemistry. Courses in quantum

chemistry are now being given in the Honors Program, and a number of graduate students are electing topics in theoretical chemistry in their Ph.D. programs.

During the year the Department received a grant of \$5,000 from the Du Pont Company of Canada. These funds will be used to assist in bringing post-doctoral fellows to the Department for advanced study.

The Imperial Oil Company has kindly donated to the Calgary Department an infrared spectrometer and associated equipment, and to the Edmonton Department, a Podbielniak Semi-automatic, distillation unit.

A large number of distinguished scientists have visited and lectured in the Department during the year. The 1959 Boomer Memorial Lectures were delivered by Professor Kenneth B. Wiberg of the Department of Chemistry, University of Washington.

The areas of research interest of the staff have been described in last year's report. To this list should be added the following:

F. W. Birss (Edmonton): Molecular and Atomic Orbital Calculations.

P. J. Kreuger (Calgary): Infrared Spectroscopic Studies in Molecular Structure.

F. C. Adam attended the Gordon Research Conference on, "Electron Spin Resonance Spectroscopy," at New London, New Hampshire.

W. F. Allen participated in the Faraday Society Discussions, at Kingston, Ontario, September 2-4. He also attended the International Photochemistry Symposium, held at the National Bureau of Standards at Washington, D.C.

R. J. Crawford is serving as Secretary-Treasurer of the Organic Chemistry Division of the C.I.C. He is also Chairman of the Organic Chemistry Symposium of the C.I.C. to be held at the University of Alberta. He also attended the National meeting of the C.I.C. in Ottawa.

S. G. Davis is serving on the Executive Committee of the Physical Chemistry Section of the C.I.C.

H. B. Dunford attended the National meeting of the C.I.C. in Ottawa.

R. N. O'Brien presented a paper on "Interferometry as a Means of Studying Concentration Polarization at Solid Electrodes," at the Symposium on "The Chemistry of the Liberation of Metals from their Compounds," at the C.I.C. meeting in Ottawa. At the National meeting of the American Chemical Society at Atlantic City, New Jersey, he presented a paper on "The Effect of Chelation Agents on Electrode Phenomena." He also attended the Spring meeting of the American Chemical Society in Cleveland.

W. J. Wallace presented a lecture on "Hydrolytic Polymerization in Aqueous Solution," at the Corning Glass Works, Corning, New York. He addressed the Department of Chemistry at Calgary on "The Role of Ion Pairs in Substitution Reactions at Octahedral Centers." He also attended the meeting of the C.I.C. in Ottawa. He is serving as Vice-Chairman of the Inorganic Division.

H. E. Gunning lectured at the Thompson-Ramo-Wooldridge Corporation, at Cleveland, Ohio, on "Techniques for Separating Mercury-204." He participated in the Faraday Society Discussions, held at Kingston, Ontario. At the second biennial Oak Ridge Symposium on Isotope Separation, held at Gatlinburg, Tennessee he delivered a paper on "Techniques for the Photochemical Separation of Isotopes." At a meeting at the Mount Royal Club in Montreal,

he addressed executives of the Chemical Process Industries on "Academic Chemistry in Canada." A paper on "The reactions of Photoexcited Mercury Isotopes with Hydrogen Chloride," was presented at the International Photochemistry Symposium held at the National Bureau of Standards, Washington, D.C. He addressed the Research Colloquium at the Research Laboratory of the General Electric Company, at Schenectady, New York, on "Reactions of Photoexcited Mercury Isotopes." A paper on "The Reactions of Highly Purified Cyclopropane with Hg 6 ($^3P_1$) Atoms," was presented at the National meeting of the American Chemical Society, Cleveland, Ohio. He lectured on "The Photochemical Polymerization of Cyclopropanes," before the Research Staff at the Imperial Oil Laboratories at Sarnia, Ontario. At the National meeting of the C.I.C. in Ottawa, a paper was presented on "The Reactions of Hg 6 ($^3P_1$) Atoms with Cyclopentane."

The number of students registered in honors chemistry continues to increase. The number of students taking chemistry courses declined slightly last year due largely to the decreased registration in the Faculty of Engineering.

Classics

In the Summer Session of 1959 Assistant Professor MacKenzie taught Classics 353 with an enrollment of 50 students.

In the regular session 1959-60, a total of 381 students were registered in the fifteen regular courses offered by the Department. The total number of regular teaching hours for the staff of four was 47 hours.

In addition, there is one student taking an M.A. in Latin and one student registered as a provisional graduate student.

In Calgary a total registration of 83 students was reported by Dr. Winspear.

For this year, Miss Mildred Staples was appointed as a sessional instructor, in lieu of the appointment of Dr. R. J. Buck, who will commence his regular duties in September 1960. In the meantime, Dr. Buck is offering Classics 357 at the 1960 Summer Session.

During the winter of 1959-60 Assistant Professor MacKenzie and Professor Hardy presented, respectively, four and six radio talks on the Classics, over CKUA. Three of Assistant Professor MacKenzie's talks are to be presented the Canadian Broadcasting Corporation.

Professor Hardy also presented ten radio lectures for the CBC's University of the Air, on "The Greek and Roman World."

A meeting of the Departments of Classics, English and Modern Languages was held under the chairmanship of Professor Hardy to arrange regulations for an M.A. in General Linguistics, to be administered by an Interdepartmental Committee with Professor Hardy as chairman.

English

This year the department began a much enlarged program of ordering books for the Rutherford Library. To take charge of this program the chairman of the department appointed a committee consisting of Messrs. Kreisel, Sowton and McMaster.

Mr. McMaster was awarded the Ph.D. degree by the University of Toronto in the fall of 1959.

Mr. Mandel held during this year a fellowship in Creative Writing worth

\$4,000 from the Canada Foundation. He has sat on the Pre-Masters Scholarship Committee of the Humanities Research Council of Canada.

At the meetings of the Humanities Association of Canada at Kingston, Mr. Mandel was chairman of a section on Readings in Recent Canadian Poetry and Prose.

Mr. Kreisel was adjudicator of the Provincial One-act Drama Festival in Red Deer, November, 1959.

Dr. Godfrey acted as judge in the Alberta Poetry Contest 1959. His report on the contest is included in Alberta Poetry Year Book 1959.

R. G. Baldwin spoke on "Significance in Modern Literature," in a panel discussion under the auspices of Christian Mission. John P. Cutts presented two papers: "The role of the student in the University," to the Newman Club, St. Joseph's College, and "The role of music in Shakespeare's *Pericles*," to the Mid-Western Modern Language Convention and the Central Renaissance Convention, University of Kansas, Lawrence, Kansas. A. T. Elder gave a talk on war novels to the Fiction Group of the University Women's Club. J. T. Jones addressed the graduation banquet of the Drayton Valley High School. H. Kreisel gave the commencement address to the graduating class of Two Hills High School. He spoke on "The poetry of Earle Birney," at the Kiwanis Club, and on "Significance in Modern Literature," at a panel discussion under the auspices of the Christian Mission. E. W. Mandel presented a paper, "The poetry of Leonard Cohen," to Israeli Chapter, The Hadassah Organization of Edmonton. D. H. Stewart spoke on "Dickens, Then and Now," to The Dickens Fellowship. The address is to be printed in "The Dickensian," next year.

Nine members of the Department gave, in all, twenty-seven radio talks, many of them on the CBC. Three of these were on the national program, "Critically Speaking."

Fine Arts

Painting Division

A total of 218 students were enrolled in the 15 art courses which were offered. This includes the Evening Credit course in Art 230. Their work continues to show gratifying development.

The approximate enrollment in the seventeen non-credit art courses through the Department of Extension day and evening classes, was 314. The popular series of spring art courses begun last year, has been continued this year through April, May and June. A part of room 303, Arts Building, was made available to the pottery classes and a small new kiln installed.

The 1958-59 Community Art program will be seen in the report from the Department of Extension.

Exhibitions were held in the Rutherford Gallery, on the second floor of the Arts Building, first floor of the Education Building, and along the corridors of the Art quarters on the third floor of the Arts Building. These exhibitions included:

- 7 Travelling Exhibitions sponsored jointly by the National Gallery of Canada and the Western Canada Art Circuit
- 1 Staff Exhibition (Glyde, Taylor and Yates)
- 3 Student Exhibitions

3 One-man Shows (Glyde, Taylor and Yates)

1 One-man Show (Barry)

Staff Exhibitions Off Campus:

H. G. Glyde—A one-man exhibition at the Edmonton Art Gallery, which consisted of drawings of England and Italy done in Europe while on sabbatical leave last year. This exhibition was sponsored by the Junior League of Edmonton.

—A one-man show of paintings in Medicine Hat during the Alberta Drama Festival in March.

—Exhibited in the National Exhibition of Canadian Art in Ottawa, sponsored by the National Council of Jewish Women.

—Exhibited at the Vancouver Art Gallery under the auspices of the Women's Committee of the Vancouver Art Gallery, in their Twelfth Annual "Do You Own a Contemporary Painting?"—National and International Exhibition.

J. B. Taylor—Exhibited with the Royal Canadian Academy, Toronto.

—Exhibited with the Canadian Society of Painters in Water color, Montreal.

—Exhibited with the Montreal Museum of Fine Arts Annual Spring Exhibition.

E. N. Yates—Exhibited in the National Exhibition of Canadian Art in Ottawa, sponsored by the National Council of Jewish Women.

Mr. Glyde also designed sets and costumes for the Studio Theatre production, "Time Remembered," and Mr. Yates designed the stage settings and costumes for the Studio Theatre production of "The Inspector General." Mr. Yates designed the stage settings for "The Teahouse of the August Moon," held in the Jubilee Auditorium.

Mr. Glyde was commissioned to design the Fourteen Stations of the Cross for St. Patrick's Roman Catholic Church in Medicine Hat, the studies of which will be placed in the new Church of St. Edmund's, also in Medicine Hat.

Lectures:

Miss Norah McCullough, Extension Representative of the National Gallery of Canada, Ottawa, for Western Canada, gave an illustrated lecture on the new National Gallery and on L. S. Lowry, well-known English folk artist. H. G. Glyde gave lectures at Camrose in the new United Church Hall, in connection with the opening of a large provincial exhibition sponsored by the Camrose Art Club; at Medicine Hat in the City Hall, sponsored by the Local Federation of Artists; at the Edmonton Art Gallery, sponsored by the Edmonton Art Gallery. He also gave a special lecture at Lethbridge to the Lethbridge Sketch Club. J. B. Taylor gave lecture demonstrations to art clubs in three schools. E. N. Yates lectured on Design to the Canadian Union College at Lacombe; the Edmonton Registered Music Teachers' Association; the Potters' Guild; and at the City Recreation Commission Training Course for Instructors.

H. G. Glyde was a member of the jury for selecting the 1960-61 series of paintings for the Junior League Art Rental project. E. N. Yates was one of a two-man jury at Regina for the Annual Exhibition of Saskatchewan Artists. J. B. Taylor was a member of the jury for a Red Cross poster contest, Edmonton.

E. N. Yates was Acting Chairman to establish the newly formed Alberta branch of the Canadian Society for Education Through Art. The purpose of this Society is to bring together all teachers of art within the school systems with the hope of raising the standard of the teaching of art. Mr. Yates and Mr. Taylor are two of the ten provincial representatives appointed by the national body at a recent convention in Montreal. Mr. Yates also holds an office on the executive of the Humanities Association.

Music Division:

All students in the Music Division took part in the Annual Christmas Concert, and in February had the privilege of joining the University Singers and the Edmonton Symphony Orchestra in a presentation of Haydn's "Lord Nelson" Mass.

Assistant Professor Robert Stangeland has during his first year made a fine contribution to the Music Division. He has examined for the Western Board of Music, adjudicated in Blairmore at their annual festival, and presented public piano recitals in Edmonton and Calgary.

Assistant Professor Rolston continues to give very satisfactory leadership in the Music Division as well as his position as Concertmaster of the Edmonton Symphony.

Extra-curricular Activities:

Following its regular winter concert series, the Mixed Chorus took part in another "Maytime in Alberta" tour; they sang in ten communities in southern Alberta. In addition to formal evening concerts they sang to school audiences in each community. A special feature of this tour was the addition of a professional string quartet and clarinetist who contributed to the program and who were enthusiastically received by all audiences.

In January the chorus gave three concerts in Convocation Hall and in Jasper and Hinton. They sang over the CBC on March 14th as part of the series, "Parade of Choirs."

The University Symphony Orchestra had one of its best seasons to date, with a marked improvement in the calibre of student performer. In addition to their annual February concert, they took part in the Annual Christmas Concert.

The University Singers presented at the Christmas Concert, Britten's "A Ceremony of Carols," then joined the students of the Music Division in singing Bach's Cantata, "God's Time is the Best." In February they sang Haydn's "Nelson" Mass with the Edmonton Symphony Orchestra at a regular concert of the Edmonton Symphony Society season. Last June the Singers took part in the first Summer Festival of the Arts in Edmonton, sponsored by the Edmonton Allied Arts Council.

The Students' Musical Club continues to present talented students in recital once a month.

Again Mr. Greene is to be congratulated for the outstanding leadership he is showing in Extension Music. For details of his work this past year see the Department of Extension Report.

Drama Division and Studio Theatre:

A total of seventy-eight students were enrolled in the six courses presented by the Division.

Workshops and Lectures given off the campus:

F. Beuckert:

- Speech Clinic — Playground teachers, City Recreation Commission.
- Voice Lectures — Shell Oil Wives; Instructors in Civil Defence.
- Drama Teaching Clinic — Teachers, Jasper Place School Division.
- Consulting — Campelltown and Jasper Place Schools on new stage facilities.
- Workshops — Rimbey School Division in Stagecraft, 2 days; Provincial Drama Workshop, Red Deer, 2 days; (organized by Department of Cultural Activities.)

G. Peacock:

- Workshops — Two 2-day workshops in Grande Prairie on Acting and Design; 2-day workshop in Red Deer on Design, organized by Department of Cultural Activities.
- Adjudicating — Adjudicated two-day festival at Bonnie Doon High School.

Mr. Peacock was appointed a member of the Alberta Drama Board, to the Central Executive of the Dominion Drama Festival, and a founding member of the Canadian League of Drama Adjudicators. He was also awarded the Canadian Drama Award and Gold Medal for 1959.

Studio Theatre:

Major Productions:

- "A View From the Bridge," by Arthur Miller, directed by G. Peacock, 6 nights.
- "Time Remembered," by Jean Anouilh, Alumni Players' presentation, 5 nights.
- "The Inspector General," by N. Gogol directed by F. Bueckert, 6 nights.
- "Under Milkwood," by Dylan Thomas, 6 nights.

Special Events:

"An Evening of Theatre" (Scenes from past productions and "Sganarelle," by Moliere)—3 nights.

Drama Society One Act Festival, 2 nights.

One Act Festival of Class Plays, 1 night.

Special Lecture by Eric Christmas of Stratford.

Elizabeth Sterling Haynes Scholarship Fund: The opening night of "A View From the Bridge," was donated to The Women's Theatre Guild in aid of the scholarship fund. Over \$600 was realized for the fund.

"Two on the Aisle,"—G Peacock, assisted by the staff, convenes the weekly critical program of music and theatre over CKUA.

G. Peacock was Chairman of the Theatre Division, Banff School of Fine Arts for 1959.

Geography

Total enrollment in Geography on the Edmonton campus during the 1959-60 academic year was 390 (including 34 in the Evening Credit Program). All staff members on the Edmonton campus participated in the formative stages of The Boreal Institute.

One hundred and six students were registered in Geography on the Calgary campus, again doubling enrollment over the previous year.

Dr. Wonders received a \$2,000 grant from the Northern Research and Co-ordination Centre, Department of Northern Affairs and National Resources,

to continue with his study of settlement in the Mackenzie Valley Area. During the summer he spent two months on research in Ottawa, and two months on field research throughout the Mackenzie Valley area and the northern Yukon. During the early spring of 1960 he also visited briefly the first Canadian oil well drilled north of the Arctic Circle, northwest of Fort Good Hope, N.W.T., and Port Radium, N.W.T.

Dr. Common completed a map of glacial deposits and memoir on Medicine Hat area for the Research Council of Alberta. He continued his Macedonian studies.

Dr. Laycock continued his research on "Water Surplus and Deficiency Patterns in the Prairie Provinces," a preliminary report on "Drought" was approved by the Board in December and is being completed for publication in the Summer of 1960. Studies of Water Surplus Patterns will continue. Dr. Laycock also, prepared, for the Dominion Economic Division, Department of Agriculture, a statistical comparative study of climatic patterns in irrigated and irrigable areas of the Prairies.

Professor Smith is currently doing research on Calgary Land Use, also research on Geography curricula in Alberta schools.

W. C. Wonders spoke on "The Mackenzie Valley, Summer 1959," to the Grande Prairie Chamber of Commerce; "Current Development in the Mackenzie Valley Area," to the Kiwanic Club, Uranium City, Saskatchewan; "The Mackenzie Valley," at the Red Deer Convention, Alberta Teachers' Association; "Sea Supply of Arctic Weather Stations," to the Canadian Institute of Mining, Port Radium, N.W.T., (repeated to a general audience.)

R. Common presented two papers: "Geography in the Social Studies Program," to the Edmonton and District Teachers' Convention; and "Whither Professional Geographers," for panel discussion, C.A.G., Kingston.

A. H. Laycock spoke on "The Assessment of Maps," Globe and Map Display, Education Building, University of Alberta; and on "Hydro-Meteorology in Watershed Planning on the Eastern Slopes of the Canadian Rockies," C.A.G., Kingston, Ontario.

Four radio talks were also given by one member of the department.

Dr. Wonders holds several offices in professional societies:

- Chairman, Awards Committee, Canadian Association of Geographers;
- Member, Canadian Committee of the International Geographical Union;
- Chairman, Education Sub-Committee, Northern Development Committee, Edmonton Chamber of Commerce;
- Member, Co-ordinating Sub-committee, Northern Development Committee, Edmonton Chamber of Commerce;
- Executive member, Edmonton Region Branch, Community Planning Association of Canada;
- Member, Northern Regional Planning Committee, National Resources for Tomorrow Conference.

Dr. Common is a member of the Awards Committee, Canadian Association of Geographers. Dr. Laycock is a Councillor, Canadian Association of Geographers and a Member of the Awards Committee, Canadian Association of Geographers. P. J. Smith is a member of the Town Planning Institute of Canada, and has been Co-opted as member of the Examination Committee, Town Planning Institute of Canada.

Dr. Wonders was Chairman of the Organizing Committee which led to the establishment of The Boreal Institute at the University of Alberta. Subsequently he has been Chairman of the five-man Directorate. Work in connection with the Institute has taken up almost one full day each week over the academic year.

Dr. Wonders was asked to serve as a member of the Northern Regional Planning Committee, preparing a program for the National Resources for Tomorrow Conference being sponsored by the Federal Government; he attended a special meeting in Ottawa. He participated as a speaker in the Goodwill Air Tour to the Peace River country by the Edmonton Chamber of Commerce. He was a registered delegate at the annual Prospectors' and Developers' Convention in Edmonton. He substituted for President Johns and Vice-President Cragg as an observer of the Annual Arctic Weather Station re-supply mission of the R.C.A.F.

Dr. Laycock attended the Photogrammetry course in Edmonton; the Alberta Resources Conference in Edmonton; Canadian Association of Geographers' Annual Meeting in Kingston, Ontario. His Ph.D. thesis and Water Pattern Studies are being used in Research Council, Ground Water studies; "Resources for Tomorrow" listing for Prairie regional study.

All staff members attended the International Symposium on Arctic Geology in Calgary.

Geology

During the academic year 1959-60 the Department of Geology welcomed Dr. K. A. W. Crook of Australia as the first National Research Council post-doctorate fellow; he will be with us again next year on an extension of this fellowship.

Gordon Williams, an outstanding scholar, holder of the Imperial Oil fellowship, will complete his doctoral research this year and become the first Ph.D. graduate of our department. Four other candidates for the doctorate are now well along on their thesis programs. Nine students will complete their M.Sc. programs this year. In all, the Department has twenty-seven graduate students; they are a source of inspiration to staff and undergraduates, but tax facilities to their limit.

The staff have presented papers to various learned societies on this continent: Dr. P. S. Warren presented a paper on evolution to the Darwinian Centennial celebrated by the Royal Society of Canada at Saskatoon last May. R. E. Folinsbee presented a paper to the Royal Society, another to the First International Arctic Symposium in Calgary in January and a third at a Conference on the Geochronology of the Rock Systems, held under the auspices of the New York Academy of Sciences in March in New York. C. R. Stelck presented the keynote address at the Annual Meeting of the Edmonton Geological Society in Edmonton in January. H. A. K. Charlesworth and R. S. Taylor presented papers previously given in Edmonton, on special request by the Alberta Society of Petroleum Geologists in Calgary. F. A. Campbell presented a paper to the Canadian Institute of Mining and Metallurgy at the Annual Meeting in Toronto; H. Baadsgaard a paper on meteorites to the Royal Astronomical Society of Canada in Calgary, and a paper on the potassium-argon dating of Cordilleran granites at the Annual Meeting of the Geological Society of America in Pittsburgh. Twenty-one papers or abstracts reporting departmental research have been published during the year.

On March 4, at 1:06 a.m. the first Canadian meteorite shower to be represented by more than one recovered stone flashed across Edmonton skies and fell into the wheat fields near Bruderheim. More than a thousand meteorite fragments ranging in size from the diameter of a pea to that of a pumpkin have been recovered, making this Canada's largest meteorite. Most of them have become the property of the University of Alberta, and there was generous co-operation in locating the fragments of the fall by the farmers of the Bruderheim area. Broken specimens will be used in the exciting new research in the study of meteorites as deep space probes and clues as to the time and manner of formation of the universe, the solar system, and origin of life. Research on the rare gases in the meteorite is being carried on at the University of Alberta, with research facilities already in use for rare gas study in the departments of Geology and Physics. It has been established that this meteorite contains argon 40, formed by radioactive decay of potassium over the 4,500 millions years since the parental body formed, as well as argon 37, a radioactive isotope of argon with a half-life of only 34 days, formed by cosmic radiation in space. Quick study of the meteorite is required if the short-lived isotopes are not to be lost, and the work at the University of Alberta is being complemented by research at the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts, and Brookhaven National Laboratory, New York, to which institutions samples were dispatched by air. Perhaps, before the research on the Bruderheim meteorite is completed it will encompass the whole spectrum of the physical and biological sciences, since some meteorites have been shown recently to contain nucleic acids, precursors of the protein molecules, the basis of life on earth. Certainly meteorites, at one time of interest mainly to museum curators, have become of great interest to physicists, geologists, chemists and biologists; to say nothing of their implications as objects which have more or less successfully solved the problem of entry into the earth's atmosphere and which have for many millions of years been bombarded by cosmic rays.

Research funds totalling \$50,000 provided by the University of Alberta, the National Research Council of Canada, the Geological Society of America and the Geological Survey of Canada enabled the Department of Geology, in co-operation with the Department of Physics, to set into operation advanced research facilities for the study of cosmic and natural spallation products. These facilities have been five years in building, and were ready when this unparalleled opportunity to study a "hot" meteorite was presented.

History

The enrollment in the eighteen courses offered by the Department of History at Edmonton in 1959-60 was approximately 925; at Calgary five courses were offered with an enrollment of approximately 175. Seven courses were offered at the Summer Session of 1959 and six in the Evening Credit Program of 1959-60.

There has been for the first time a substantial number of students (seven) doing full time graduate work leading to the degree of M.A. in History. The Department was approved during the year by the Faculty of Graduate Studies to offer the Ph.D. in certain fields of Canadian and American history.

Dr. Eccles' "Frontenac, the Courtier Governor," which was published in 1959, received the book award of the Pacific Coast Branch, American Historical Association. During the summer of 1959 Dr. Eccles was in Eastern Canada

engaged in research on his volumes in the Canadian University Series and the Frontier History Series. Dr. Farnham continued his research in the United States for studies of Grenville Dodge and the Union Pacific Railroad. Dr. Brocks research in Polish history took him to France, Czechoslovakia and Poland. Dr. McNeal spent part of the summer in American libraries and Dr. Thomas began work on the reprinting by the University of Toronto Press of A. S. Morton's "History of the Canadian West to 1870-71." Dr. Self attended the Institute for Historians held at Kingston by the Canadian Historical Association.

Dr. Eccles, Dr. McNeal and Dr. Thomas attended the Canadian Historical Association meetings in June at Saskatoon, where Dr. Eccles acted as commentator on a paper read by Professor Michel Brunet, and Dr. Thomas acted as chairman at one of the sessions. Dr. McNeal, Dr. Hertzman, Mr. Murray and Dr. Thomas attended the meeting of the American Historical Association at Chicago in December, and Dr. Farnham and Dr. Eccles the meeting of the Mississippi Valley Historical Association at Denver.

Dr. Thomas addressed the Annual Meeting at Edmonton of the Bibliographical Society of Canada. Dr. Eccles read a paper to the Second National Seminar of NFCUS at Montreal, and to the Philosophical Society of the University of Alberta. He also spoke at the Graduand's Banquet at St. John's Institute. Dr. Brock spoke at the Polish Independence Day meeting in November 1959, and on "Poland between East and West," under the sponsorship of the Polish Students' Association. Dr. McNeal read a paper, "Stalin Reconsidered," before the Humanities Association in Calgary and Edmonton. He also gave a series of lectures on Soviet Russia at the United Nations Association Summer School at Banff, under the auspices of the Department of Extension in Edmonton. He addressed the Kiwanis Club of Edmonton and the United Nations Association, Edmonton Branch. Dr. Hertzmann spoke to the United Nations Association, Edmonton Branch, on "Germany between East and West." Mr. Murray addressed the Edmonton Citizenship Council in April. Dr. Heymann read a paper, "City Rebelions and Religious Struggles in the Pre-reformation Era," to the Humanities Association in Calgary and Edmonton.

Radio talks given by members of the Department include two for CBC, University talks by Dr. Eccles on "The Writing of History," and five for CKUA.

Mathematics

The departmental staff increased to twenty-five full-time and seven part-time instructors, including three full-time instructors at Calgary.

A Summer Institute for Modern Mathematics was held for six weeks in July and August, 1959. Dr. R. V. Andree from the University of Oklahoma gave a course on Selected Topics in Modern Algebra and Dr. M. Wyman a course on Elementary Mathematics from an Advanced Viewpoint. About fifty-five high school teachers and school inspectors attended. Dr. Andree and his wife Josephine gave a great deal of time and attention to the students outside of regular classes. Several new movies on the teaching of mathematics were shown at afternoon sessions of the Institute.

The department was will represented at the Mathematics Seminar conducted by the Canadian Mathematical Congress in Fredericton, New Brunswick. Professors Keeping, Wyman, Narayana, Cree and Whitney from Edmonton, and Mr. Holland from Calgary attended, as well as two graduate students. Dr. Wyman gave a course of lectures on Asymptotic Expansions at this Seminar.

Professor J. S. Frame, chairman of the Department of Mathematics at Michigan State University, visited the campus in March 1960. He spoke to several groups of students and to the mathematics colloquium, and gave a talk to the Science Association on Symmetry Groups in relation to Molecular Structure.

Dr. W. B. Pennington, professor of mathematics in the University of London (England) and an expert on number theory, gave a lecture to the mathematics colloquium in February, 1960.

During the summer of 1959, Drs. Narayana and Guinand worked at the Summer Research Institute in Kingston, Ontario, on their own fields of mathematics.

Three Summer School courses, two courses in the Evening Credit Program, and an Extension course in mathematics for engineers, were given by members of the Department. Two series, each of three radio talks over CKUA, were given by members of the Department under the general heading, "The World of Science."

Professor Keeping continued to act as News Editor for the Canadian Mathematical Bulletin. Professor Moser continued as Problems and Notes Editor for the same journal.

Dr. Moser was elected to the Royal Society of Canada in April 1960. He has also been chosen as one of the Visiting Lecturers for the Mathematical Association of America in the Spring of 1961.

Dr. Wyman addressed meetings of the Alberta Teachers' Association in Medicine Hat and in Edmonton.

Dr. Lee Lorch and Dr. Moser attended the Chicago meetings of the American Mathematical Society, and presented research papers. Dr. Lorch also attended the Berkeley meeting of the Society and presented a paper there.

Dr. G. K. Horton attended the meeting of the Physical Society of London in Birmingham, on the properties of liquid helium, super-conductivity, etc.

He presented a paper at the American Physical Society meetings in New York, and lectured on the Theory of Ideal Inert Gas Solids at the Argonne National Laboratory in Chicago, the University of Illinois, the Ohio State University, Battelle Memorial Institute and the National Research Council, Ottawa. Dr. Horton also lectured at Rutgers University, the University of Delaware and the University of Maryland. He has been invited to address the Royal Society of Canada on Electron-Phonon Interaction Problems.

Dr. Narayana gave a paper at the annual meeting of the Institute of Mathematical Statistics in Washington, D.C., and lectured at the University of Minnesota.

Department of Modern Languages

Registration continued to rise in all languages offered in the Department. In Russian, this increase occurred in first-year courses while in French and German it was particularly noticeable at the second year level. In German a "Special Reading Course" for graduate students was offered for the first time to meet the need of a growing number of Ph.D. candidates in the University.

To meet the increase in the registration and redistribution of teaching assignments, four new appointments were made in the Department in Ed-

monton and two in Calgary. Dr. E. J. H. Greene received sabbatical leave for study in France. During his absence Dr. E. Reinhold served as Executive Officer of the Department.

The language laboratory whose installation was recorded in the last Report, was used extensively and with considerable success in the instruction of all five languages.

Seven students were actively engaged in graduate work in the three divisions of the Department, three holding awards made by the Faculty of Graduate Studies. Three graduating honors students have received French Government awards for teaching in France and two former graduates are continuing their studies at French and German universities on Canada Council pre-doctoral fellowships.

Dr. Greene received a Canada Council Senior Research Fellowship in support of his Marivaux studies in France. Several members of the Department received University Research grants and in addition, Drs. Scott and Arnold received Canada Council short-term grants for research in Europe. Mr. Harms was awarded a similar grant for research at the University of Colorado in connection with his Ph. D. thesis.

The second session of the Summer School of Linguistics was conducted under the direction of Dr. E. Reinhold in conjunction with the regular 1959 Summer Session. The Department sponsored four of the nine courses offered, which included "Eskimo Language and Culture."

Dr. O. Starchuk received for the University from Mrs. I. Gonsett and Mr. F. R. Gonsett, \$14,150, as a permanent endowment for the expansion of library materials in the field of Slavonic studies; and from the Norwood Branch of the Canadian Legion, five One Hundred Dollar scholarships for meritorious students in Ukrainian.

Members of the Department participated in the activities of several professional and related organizations: Dr. Greene was elected Vice-President of the Association of Canadian University Teachers of French, at the Association's Annual Meeting in June 1959 at the University of Saskatchewan. In July 1959, Dr. E. von Richthofen presented a paper at the Congress of the Société Rencesvals at Poitiers, France. Dr. Starchuk is President of the Canadian Association of Slavists, Vice-President of the Shevchenko Scientific Society, Western Canadian Branch, and Executive Member of the Ukrainian Shakespearean Society, Munich, Germany. He is also co-editor of Volume IV of "Canadian Slavonic Papers" University of Toronto Press, Spring 1960). Dr. Reinhold gave a report on the 1959 Summer School of Linguistics to the Annual Meeting of the Canadian Linguistic Association in Saskatoon. He served as Past-President on the Executive of the Humanities Association of Canada, Edmonton Branch, and was elected a member of the Executive of the Alberta Archaeological Society. Dr. C. H. Moore delivered a paper on "Albert Camus — Is Humanism Possible?" to the Edmonton and Calgary Branches of the Humanities Association and served as President of the Edmonton Film Society. Mr. R. D. Motut is Vice-President of the Alliance Française, Edmonton, and Chairman of the Education Committee of the French-Canadian Association of Alberta. Dr. J. Szövérfy was elected a member of the Council of the American Folklore Society and Mr. H. F. Chanal is a member of the editorial committee of "Slavica Canadiana."

Philosophy and Psychology

Four new staff members were added to the Department since the last report. The growth of this tri-partite department necessitated its division into two separate departments: a department of Philosophy and Sociology, and a separate department of Psychology. This division took place as of April 1, 1960.

During the summer of 1959, A. M. Mardiros was invited to teach a course in Moral and Political Philosophy at Queen's University, Kingston, Ontario, and Dr. D. Spearman was invited to teach Psychology at Victoria College, B.C. T. M. Penelhum represented the University of Alberta at a Faculty Seminar in San Francisco, sponsored by the Standard Oil Company of California.

Recently Dr. Hostetler received a grant of \$1,500 from the American Philosophical Society for the Promoting of Useful Knowledge. Dr. Hostetler plans to spend the summer of 1960 on the collection of research materials needed to complete a book on the Old Order Amish.

Physics

The Physics Department has continued to grow in all departments, but especially in experimental research and graduate students. Concentration of most of the experimental research in a few areas has made it possible to expand facilities and staff in these areas, and to attract graduate students in ever-increasing numbers. At present there are 23 graduate students registered in the department, 11 of them candidates for the Ph.D. degree. Graduate study in Physics is also being carried out in Calgary, and at the Fall Convocation for the first time an M.Sc. degree was granted to a Physics student who had completed all the requirements in Calgary. The technical staff and workshop facilities have been further expanded, new laboratory equipment has been accumulated, and a systematic overhaul of the equipment for undergraduate laboratories has been started, all in anticipation of the move to the new building.

An important step in the expansion of the research facilities was taken in September when the two million volt Van de Graaf particle accelerator was moved from the Suffield Experimental Station of the Defence Research Board to the University campus. This machine, together with much auxiliary equipment, was donated to the University by the Defence Research Board, and research with it is being generously assisted by the Atomic Energy Control Board. The accelerator forms the nucleus of a Nuclear Physics research laboratory which is housed in a special small building immediately north of the new Physics building. Drs. W. K. Dawson, G. C. Neilson and J. T. Sample, with three graduate students, have started a program of research in nuclear physics which involves measurement of energies of neutrons from various reactions by a time-of-flight method, and study of polarization of neutrons, along with other energy measurements of high-speed particles.

The Low Temperature and Solid State research group, Dr. S. B. Woods and Dr. F. Manchester, with three graduate students, have been making good use of the Collins helium liquefier which was installed early in 1959. Experiments are in progress, or apparatus is being constructed, to study: some peculiar thermal effects which have been reported in trying to attain very low temperatures by adiabatic demagnetization, oscillations in superfluid liquid helium II, electrical and thermal conductivities and thermoelectric powers of

metals, and particularly of sodium around its transition point near 40°K. Closely associated with the work of the Low Temperature laboratory is that of Dr. F. L. Weichman who has been continuing this experiments on photo-conductivity in cuprous oxide, on the recently discovered effect of light on the thermoelectric properties of this material. Dr. H. A. Buckmaster has also been sharing some of the facilities for his experiments on microwave paramagnetic resonance in the rare earth fluorides. The intricate apparatus for these experiments is now functioning, and experimental data are being collected.

Research in Geophysics has continued under the direction of Drs. G. D. Garland, K. Vozoff and G. L. Cumming, with five graduate students. Measurements were made during the summer of the temperature gradients in abandoned oil wells, in order to determine the heat flow from the interior of the earth. These are being correlated with laboratory measurements of the thermal conductivity of rock samples. An extensive survey is being made of fluctuations in the earth's magnetic field, and these are being correlated with measurements of electric currents in the crust, in order to yield information about crust features at considerable depth. A start is being made on modifying the recording equipment so that the tremendous volume of data can be analyzed by a high-speed computer. In addition, members of the group have co-operated with members of the University of British Columbia and of the Alberta Research Council in a geophysical study of the Athabasca glacier.

Closely associated with the work of the Geophysics group is that of Dr. J. Lipson with the mass spectrograph. The instrument which was constructed in 1959 has been used throughout the current year in a joint program with the Geology department, of dating rocks by the potassium-argon method. It has also been used to study the rate of diffusion of inert gases through rocks and other materials. A second mass spectrograph is under construction, in order to extend the range of masses which can be studied. In similar work, Dr. G. L. Cumming has been studying the radioactivity of the large meteorite which fell near Bruderheim during the winter, in order to estimate the age of this object.

Although Experimental Physics is growing in a most satisfactory manner and can be expected to grow even faster when the new building is available, Theoretical Physics continues to be the outstanding specialty of the Alberta Physics Department, with nine graduate students working under the supervision of the Theoretical Physics group. Dr. A. B. Bhatia and a student have completed a theoretical treatment of the attenuation of ultrasonic waves in metals, which should provide a new method of obtaining information about the electronic structure. Dr. L. E. H. Trainor, with four students under his supervision, has been concerning himself with the nature and properties of nuclear matter, and with the structure of elementary nuclear particles. Some interesting and novel results have already emerged, and ought to contribute to knowledge of atomic nuclei. Dr. H. Schiff, with two students, is concerned with quantum modifications of the Maxwell equations of the electromagnetic field, and the relation with certain elementary particles. Dr. D. D. Betts, with two students, is concerned with the theory of crystalline solids, and is continually improving methods of treating this intricate problem. A great deal of computation is involved, and good use is being made of the University's electronic computer. Dr. Bhatia spent most of the summer of 1959 at the

University of Liverpool, collaborating with Professor Fröhlich of that University in a book on Ultrasonics and the Physical Properties of Matter.

A graduate student under the direction of Dr. D. B. Scott has been comparing the biological effects of beta-rays from strontium 90 with those of gamma-rays from cobalt 60, using the growth of onion roots as an indicator. Dr. Scott has also continued to collaborate with the isotope laboratory at the University Hospital. Dr. K. B. Newbound has continued some work in precision spectroscopy, and Dr. J. H. Harrold on micro-interferometric examination of metal surfaces. However, both these members of the staff have devoted a great deal of their time during the past year to organization of undergraduate teaching, and to over-hauling undergraduate laboratories.

In accord with the policy that research facilities in the University of Alberta at Calgary should not duplicate facilities at Edmonton, the Calgary division of the Physics Department is concentrating on Biophysics and on Cosmic Rays. An electronic microscope has been installed, with the help of a National Research Council grant, and is being used mainly by Dr. C. E. Challice in connection with his study of the physical properties of nerve and muscle tissue. Dr. Challice again spent much of the summer at the laboratories of the New York State Department of Health in Albany, N.Y. As a result of his work he has been elected a member of the New York Academy of Sciences.

The work on Cosmic Rays is a joint project of the National Research Council's observatory at Sulphur Mountain, and the Physics Department in Calgary, under the direction of Dr. B. G. Wilson of the National Research Council, who is also part-time lecturer at Calgary, and Dr. F. Terentiuk. Two graduate students are also engaged on the project. Besides routine observations at Sulphur Mountain, a special experiment is in progress to search for very wide cosmic ray showers, by making simultaneous observations at Sulphur Mountain, at Calgary, and in an abandoned coal mine at Anthracite, near Banff.

Political Economy

Two staff members, W. D. Gainer and W. Mackenzie, returned from Toronto and Oxford respectively where they had been on leave of absence during 1958-59.

The Edmonton daytime enrollment in Economics during the 1959-60 term was 880; the enrollment in Political Science was 180. In Calgary there were 45 students in Economics 200, 12 in Economics 300 and 20 in Economics 330. In Lethbridge 12 students were enrolled in Economics 200.

Evening division courses were given in Edmonton (Economics 200, Economics 330 and Political Science 320), in Westlock (Political Science 320) and in Vegreville (Political Science 320).

Four students completed the M.A. requirements during the year. There was a notable expansion in the number and calibre of graduate students during the year. Among those enrolled full time were two students from the British Isles, one from the Netherlands, and a Ghanaian. Several students are going abroad or to Toronto to work on Ph.D. Degrees.

Frank Anton has completed a study entitled "Government Supervised Strike Votes," and read a paper on this topic at the meetings of the Canadian Political Science Association. His study will be published in the near future.

Milton Bauer is continuing his work on the Quebec savings banks; he is going to the University of Chicago this summer to work on this study.

Bohdan Bociurkiw is continuing his work on the relationship of church and state in the U.S.S.R. He read papers related to this topic at Saskatoon, annual meeting of the Canadian Association of Slavists, and at the Far Western Slavic Conference meeting at Stanford University. He presented a paper to the Canadian Political Science Association.

Maurice Boote is working on an economic study of the Atlantic provinces which he began at the University of New Brunswick. He is supervising two M.A. theses.

Grant Davy was Research Associate at Duke University, Durham, N.C. during the summer of 1959. He is supervising two M.A. theses.

William Dawson presented a paper to the Canadian Political Science Association at Saskatoon. He is presently completing a book on parliamentary procedure which is expected to be published next fall. He has also revised his father's book on The Government of Canada.

Walter Gainer completed his study of regional income analysis at Massachusetts Institute of Technology in 1959. He is continuing his study of factors affecting the economic development of Northern Canada. He and Boote represent the department in the Boreal Institute. He is supervising three M.A. theses.

Gordon Goundrey has been making progress on his study of forest management. He has written several articles during the year.

Eric Hanson has completed a first draft of his study of the fiscal capacities of the Canadian provinces. Publication is likely in late 1960. He presented a paper on the oil industry to the Canadian Statistical Association. He supervised one M.A. thesis during the winter.

William Mackenzie is completing a study entitled "The Changing Cost Structure and Relative Profitability of Agriculture in the Regions of Canada, 1926-56". He is beginning a study of provincial government control of milk prices in Canada. A study directed by him was completed by a former graduate student, L. Poetschke, entitled "A Study of Price Determination in the Alberta Hog Markets". He is supervising one M.A. thesis.

Thomas Powrie is working on a study of the factors affecting the Canadian balance of payments.

The Department is beginning a joint project for publication in two or three years time. It is to be called "The Prairie Economy, 1911-1961," and it will attempt to trace the economic development of the prairie provinces since the first comprehensive census for the area in 1911. At least six members of the department will contribute to the study. The editor will be W. Mackenzie..

Members of the Department participated in a variety of extension activities. Mr. Anton addressed several groups during the year at Calgary and Banff and was chairman of an arbitration board. Mr. Bauer gave several addresses on monetary policy, and participated in a radio program on this topic. Mr. Bociurkiw spoke to several groups on Russian government and politics. Mr. Davy gave a number of addresses to groups and on the radio; he supervised student debates, assisted by Mr. Mackenzie. The latter gave several radio talks. Dr. Gainer is a member of the Royal Commission on the Slave Lake Railway which held hearings during the year. Mr. Goundrey gave a number of talks and lectures. Dr. Hanson addressed groups in Edmonton, Calgary, Regina and Banff. It is estimated that members of the department made over

forty speeches and radio addresses during the year; in addition, many extension lectures were given.

Zoology

Dr. J. R. Nursall continued as Acting Head during 1959-60. With two new staff members the department staff numbered seven. Two junior courses, with a total enrollment of about 600 were given during the winter session. Zoology 222 was given during the summer of 1959. Nine senior courses, serving about 260 students, were given during the winter. Included in this list is the first offering of Zoology 525, a field course designed to acquaint senior Honors students with Canadian faunae and environments, not represented in Alberta. Dr. G. O. Mackie took four students to the Pacific Coast in early May for an intensive three-week survey of marine fauna and collection of specimens. We are grateful to the Biology Department of Victoria College and the Friday Harbor Marine Biological Station for courtesies and assistance extended to us during the trip.

During the year, one Teaching Assistant and sixteen Demonstrators helped in the laboratories.

The Zoological Collections, under the curatorship of D. A. Boag, continue to be reorganized. The birds are completely recatalogued and the mammals nearly so. A new system of cataloguing is being used wherein distribution maps for each species accompany the catalogue entry. The system can be expanded or modified with no difficulty. The Soper Collection of mammals has been incorporated into the new system. In addition to numerous acquisitions through staff collecting and liaison with the Edmonton and Calgary zoos, the museum acquired the Wilby Hummingbird collection with a presidential grant. This collection comprises 160 specimens, chiefly South American. The museum continues to engage in active exchange with other institutions. The collection of Flathead chub (*Hybopsis gracilis*) has been loaned to the University of Kansas; the collection of slimy sculpin (*Cottus cognatus*) has been loaned to the Institute of Fisheries, University of British Columbia; a representative series of white-crowned sparrow (*Zonotrichia leucophrys*) has gone to the Museum of Vertebrate Zoology, University of California; our zoological records for the cowbird (*Molothrus ater*) have been sent on request to the Smithsonian Institution, Washington, D.C.

The Alberta Biological Station completed another successful summer in 1959, under the directorship of Dr. V. Lewin. A third permanent building, a laboratory, was erected. Running water and electricity were installed. These improvements were made possible through the assistance and generosity of the Alberta Department of Lands and Forests. The personnel of the station included Dr. Lewin, Mr. Boag, four graduate students and three undergraduates. Investigations included studies of the ruffed grouse (*Bonasa umbellus*), the blue grouse (*Dendragapus obscurus*), the mule deer (*Hemionus odocoileus*), the Columbian ground squirrel (*Citellus columbianus*), effects of dietary differences on rainbow trout (*Salmo gairdneri*) and the effects of grazing on small mammal populations. In addition, station funds supported work elsewhere in the province on ruffed grouse. Two graduate students were supported by Canadian Industries Limited Wildlife Management grants and one by a National Research Council Bursary.

Dr. J. R. Nursall represented the University at the Thirteenth Annual Meeting of the Canadian Committee for Freshwater Fisheries Research in

Ottawa. He was elected Chairman of the Fourteenth Annual Meeting, to be held in January 1961.

Dr. G. O. Mackie has been continuing research into the histology of the jellyfish, using live material sent from the Pacific coast. He has built a 350 gallon marine aquarium, with circulating, filtered water, in which to maintain research and teaching specimens. Dr. Mackie has also initiated studies into the taxonomy of local Hydrozoa and Bryozoa, the former being a continuation of work begun by the late Professor W. Rowan in 1929. Dr. Mackie presented a paper entitled "The siphonophoran nervous system," to the meeting of the Western Society of Naturalists, in Los Angeles. He has also been General Secretary of the Science Association this past year. He has spoken over CKUA on "Exploring the ocean abyss."

Dr. W. A. Fuller attended the meetings of the American Ornithologists Union in Regina, and the Canadian Society of Wildlife and Fishery Biologists (of which he is a director), in Ottawa. Dr. Fuller has been active in the establishment of the Boreal Institute of the University of Alberta, and sits on its directorate. Dr. Fuller presented a paper, by invitation, on the management of North American bison (*Bison bison*) to the International Union for Conservation of Nature and Natural Resources, in Warsaw, Poland.

Dr. C. P. Hickman spent two months during the summer of 1959 engaged in research at the Vancouver Public aquarium, studying thyroid function in the starry flounder (*Platichthys stellatus*). He presented a paper to the American Endocrinological Society at the meetings of the American Institute of Biological Sciences at Pennsylvania State University. At present Dr. Hickman is continuing comparative studies of thyroid function in marine and freshwater fishes. He has employed full-time technical assistants all winter; his technician accompanied him to Vancouver during May and June, at which time marine fishes were studied further.

Dr. V. Lewin presented a paper on "Methods of dating reproductive events in upland game bird populations" to the Northwest Section of the Wildlife Society meeting at Washington State University, Pullman, Washington. He continues to sit on the Alberta Predator Advisory Committee.

Dr. J. C. Holmes is directing a project on schistosome dermatitis (swimmer's itch) in co-operation with the Alberta Department of Public Health. The objective of the study is to determine the causal agents of the itch and their life cycles, with an eye to control of the infliction. Dr. Holmes is also conducting a survey of parasites of Alberta birds and mammals, co-operating with the Canadian Wildlife Service and the Fish and Game Branch, Alberta Lands and Forests, in special surveys of bison, elk, coyotes, muskrats and other mammals.

The Department of Zoology also expects to co-operate with Alberta Lands and Forests in a faunal survey of the McMurray tarsands area, prior to the underground atomic tests. Drs. Lewin and Holmes will be chiefly responsible for this.

National Research Council Grant-in-Aid of Research have been given to each of Drs. Nursall, Mackie, Fuller and Hickman.

In Calgary Dr. Hartland-Rowe has had to concern himself largely with the expansion of duties and facilities. Some 90 students have been enrolled there in a junior and a senior course. Dr. Hartland-Rowe will continue his researches into biological rhythmicity this spring when he assumes the directorship of the Biological Station for the summer of 1960.

Report of the School of Commerce

Faculty Changes

Dr. Hu Harries was appointed Director of the School of Commerce effective September 1st, 1959. Mr. Wm. A. Presling was appointed Administrative Officer of the Department of Business Administration, Mr. J. D. Kyle was appointed Assistant Professor of Business Administration and Mr. K. J. Arthur was appointed lecturer in the Department of Business Administration. Mr. A. S. Rankin was appointed Assistant Professor in the Department of Accounting. Dr. Herbert Axford resigned his position as Associate Professor of Business Administration and Secretary of the School of Commerce effective August 31st, 1959. Mr. A. O. Saffel resigned his position as Assistant Professor of Accounting effective August 31st, 1959.

Curriculum

A complete revision of the School of Commerce curriculum was approved effective September 1st, 1960 and on that date the School of Commerce will become a Faculty with Dr. Harries, Dean.

The first two years of the new four year program do not permit any specialization while in the last two years, a limited degree of specialization will be permitted in Accounting, Economics, Finance, Marketing, Personnel or Production. A variety of new courses, particularly in the third and fourth year, have been authorized. The new program requires a general educational content of not less than 55% and is in substantial conformity with recommendations made as a consequence of two major studies of Business Education.

Extension Work

Staff members of the School participated in a number of Extension activities during the course of the year. Programs in Retailing, Personnel, Public Administration and Finance were presented.

Banff School of Advanced Management

Activities of the Banff School of Advanced Management were carried on in co-operation with various staff members of the School of Commerce.

Report of Professor Hazel McIntyre, Director of the School of Household Economics

Registration in our courses during the year 1959-60, including summer school was 461, an increase of 31 over last year. For the first time students were registered in the first year of Household Economics in Calgary.

Three new instructors were added to our teaching staff and also an assistant dietitian, who assists in teaching.

Staff members attended national and provincial meetings of professional societies, and meeting of Learned Societies. Miss Grace Duggan attended the Canadian Council on Nutrition in Ottawa and is in charge of a Conference on Nutrition in Edmonton in July. Dr. Elizabeth Empey attended the Civil Defence School at Arnprior. The number of requests for speakers for community projects and organizations has increased steadily. The department has tested products for manufacturers and for individuals. Mrs. Ruth Adams, as a public service, has held special store employee classes on fabric selection and has given lectures in specialized fields to high school teachers.

Report of Dean H. R. MacLean of the Faculty of Dentistry

Registration in this Faculty totalled 121, representing an increase of 11 over the previous session. The Recruitment Committee of the Alberta Dental Association has an active program to assist high school students who indicate an interest in dentistry as a career. However, a shortage of qualified applicants still exists not only in Western Canada but on this continent.

There are 27 in the Graduating Class this year, including one graduate from Holland. Two dentists from Europe are receiving instruction in advanced classes in order to qualify.

The proportion of full-time academic personnel to part-time instructors is still low. Efforts to secure a more favourable balance are being made.

Although the program of courses has not been altered to any degree, more emphasis is now being placed on the care of children and preventive treatment.

1,151 patients were given dental treatment in the Clinic this past session. 144 children received interceptive orthodontic service and 228 preventive and restorative dentistry.

23 of our graduates took the National Dental Board Examination and all were successful.

Two-day seminars in Pedodontics and Orthodontics were given to the Profession in five different centres in Alberta.

Lectures by several staff members were given to the Alberta Dental Assistants Association and to the Home and School Associations throughout the year.

In May 1959, two five-day postgraduate courses were offered; one in Dentistry for Children and the other in Interceptive Orthodonture.

In September, a three-day refresher course in Endodontics was given to a group of ten by Drs. McMurchy and Tegart.

Dr. Castaldi represented Alberta on the Associate Committee of Dental Research at the National Research Council Meetings in Ottawa and at the International Association for Dental Research Meeting at Chicago.

Dr. H. E. Bulyea, the first Director of this School, was given an Honorary LL.D. degree at the opening of the Dental Faculty Building in Winnipeg in March. Dr. MacLean represented the University of Alberta on this occasion.

Scientific presentations were given by Drs. Castaldi, Fraser, Haryett, MacKenzie, MacLean, McMurchy, McPhail and Tegart to various groups in the Province.

Guest lecturers included Dr. Lauritzen of Seattle; Dr. W. C. McIntosh, President of the Canadian Dental Association; and Dr. C. Lewis of the Council of Dental Education.

The following research projects are in progress at the present time:

- (1) A survey of the Dental Status of Pre-School Children Living in Wetaskiwin and Camrose areas—Dr. C. R. Castaldi.
- (2) Sociology Study of Attitudes of the Public Regarding Fluoridation—Dr. C. R. Castaldi and Prof. G. Hyrabayashi.
- (3) A study of Enamel Faults and the Relationship to the Time of Brain Damage in Children with Cerebral Palsy—Drs. C. R. Castaldi, K. McMurchy, J. K. Martin, and M. Thompson.
- (4) A study of Defects in Class II Amalgam Restorations in Primary and Young Permanent Teeth—Dr. C. R. Castaldi.

- (5) A study of Resorption of Enamel, Dentin and Cementum—Dr. K. A. McMurchy.
- (6) A study of Traumatic Tooth Movement—Drs. R. D. Haryett and K. A. McMurchy.
- (7) A study of the Basic Oral Reflexes—Dr. R. D. Haryett.
- (8) A study of Inflammatory Response to Sterile Glass Rods in the Connective Tissue—Dr. R. L. Tegart.
- (9) A study of Positions of the Mandible in Edentulous Patients During Prosthetic Treatment—Dr. R. P. Mullen.
- (10) Incidents of Malocclusion in Children from Urban and Rural Areas of Alberta—Dr. C. R. Castaldi and Dr. W. Quigley.
- (11) Daily Fluid Intake of Children in the Edmonton Area—Dr. C. W. B. McPhail.

Report of Dean H. T. Coutts of the Faculty of Education

PART I

I have the honor to present this report of the Faculty of Education for 1959-60. Additional information concerning this Faculty is included in the reports of Dr. A. L. Doucette, Director of the University of Alberta in Calgary, and of Dr. J. W. Gilles, Director of the Summer Session and Evening Credit Program.

1. Registration

Student enrolment rose in the winter session, the summer session, and the evening credit program. The most significant gains were in the first and second years of the undergraduate Bachelor of Education program and in the Bachelor of Education program for those holding undergraduate degrees from other faculties and programs. During the year the Faculty of Education maintained active records for well over 5,000 students, approximately 1,760 in the winter session, 865 in the evening credit program, 2,500 in the summer session. During the year twenty-seven full-time graduate students were registered on programs leading to advanced degrees in education.

Much staff time and effort were devoted to a study of present and projected enrolments, the effect of these on faculty structure and staffing, the expanding functions of the faculty, the role of the demonstration school in teacher education, and the space requirements necessary for an adequate program of teaching, demonstration, clinical work, research and publications.

2. Degrees

The following degrees were conferred during the year:

	Oct. 1959	May 1960	Total
B.Ed.	207 (136)	95 (82)	302 (218)
B.Ed. in Industrial Arts	4 (2)	3 (2)	7 (4)
B.Ed. in Physical Education	0 (1)	0 (0)	0 (1)
	211 (139)	98 (84)	309 (223)

3. Recommendation for Certification

In addition to students recommended for the Junior E Certificate, the following were recommended for the Standard E, Standard S, and Professional Certificates:

	Oct. 1959	May 1960	Total
Standard E Certificate	144 (59)	37 (38)	181 (97)
Standard S Certificate	199 (122)	248 (203)	447 (325)
Professional Certificate	75 (217)	132 (120)	207 (337)
	418 (398)	417 (361)	835 (759)

Note: Figures in parentheses are for 1958-59.

4. Curriculum

In response to recommendations of the Board of Teacher Education and Certification, the Faculty intensified its program in commercial and business education. A post-B.A. program for elementary specialists to parallel that for secondary teachers was introduced. Slight changes were made in the Bachelor of Education in Industrial Arts program to enable students to carry more mathematics and science courses.

Revision was made of a number of courses and of the prerequisites for others. New courses introduced were Education 341D (Welding), Education 480 (Curriculum and Methods), and Education 696 (Comparative Education). Changes were made in the requirements of the special certificate in school administration and in the specialist advanced certificates in unit shop subjects.

Cooperative discussions were begun with representatives from Universities and Departments of Education in the four western provinces with a view to expansion of programs to prepare teachers of such special groups as the deaf, the blind, the physically and mentally handicapped.

5. Leave of Absence

Dr. B. E. Walker and Dr. W. H. Worth returned in September, 1959, the former from a sabbatical year spent in southern France, the latter from two years of graduate study at the University of Illinois.

During 1959-60 Miss M. A. Caldwell has pursued a doctoral program at Colorado State University, Greeley, and Mr. R. J. C. Harper a doctoral program at Edinburgh, Scotland. Professor W. E. Hodgson has been on leave-of-absence for health reasons.

In 1960-61 Dr. B. Y. Card will spend a sabbatical leave in further sociological study, research and publication. Mr. S. A. Lindstedt of Calgary will study at the University of Wisconsin and Mr. J. E. Cheal of Edmonton at the University of Chicago as an Associate in the Midwest Administration Centre.

6. Staff

Following the resignation of Dr. H. B. Barnett, Mr. A. A. Smith transferred from our staff in Calgary to take charge of the music education program in Edmonton.

The following joined our staff on September 1, 1959: Associate Professors J. D. Ayers (Educational Psychology), C. M. Christensen, Educational Psychology), S. A. Earl (Supervisor of Student Teaching) and L. D. Nelson (Elementary Education) all in Edmonton; Assistant Professors R. N. Anderson (Secondary Education), Mary A. Beaton (Secondary Education), F. E. Churchley (Music Education), J. A. Stewart (Educational Psychology), and Helen M. Diemert (Art Education), the first four in Calgary and Miss Diemert in Edmonton.

Dr. H. E. Smith, Dr. H. A. MacGregor and Mr. J. E. Simpson were sessional lectures on a full-time basis, Mrs. C. M. Christensen, S. Radomsky, R. W. Smith, and John Yusep on a part-time basis.

It is with regret that the Faculty of Education notes the retirement of Miss M. S. Simpson from her duties as Dean of Women. We wish again to recognize the valuable contribution which she made to our students as an adviser and teacher, and wish her long years of health and happiness.

In April, 1960, Mr. A. A. Smith was promoted to the rank of Associate Professor, Miss Elizabeth Filipkowski to the rank of Assistant Professor.

During the year, the University of Illinois conferred the Ph.D. degree on W. H. Worth and Mrs. Velma I. Rust (a former member of our staff).

The Dean is a continuing member on the directorate of the Canadian Education Association and the Executive of the Alberta Education Council.

7. *Representation at Professional Conferences*

The Faculty was represented at meetings of the Western Canada Regional Conference on Teacher Education (Winnipeg), The Canadian Association of Professors of Education (Saskatoon), the Canadian Conference of Canadian Universities and Colleges (Saskatoon), The Canadian Education Association (Saskatoon), the Alberta Education Council, and at several national and international meetings of groups with educational and research interest that parallel those of members of our staff.

8. *Graduate Study and Research*

The year 1959-60 was marked by an active research program in the Faculty of Education. After years of creative leadership as Director of Educational Research in the Faculty, Dr. G. M. Dunlop resigned in October, 1959, to be replaced by Dr. D. B. Black. The research projects of individual staff members are complemented by the sponsorship of the Alberta Advisory Committee which continues to provide leadership and funds for this important part of our work. During the year, *The Alberta Journal of Educational Research* entered its sixth year of publication.

Graduate studies were again expanded. Besides the increasing number of students who registered on intramural programs leading to the M.Ed., Ed.D. and Ph.D. degrees in Education are hundreds of students embarked on M.Ed. programs in summer session. Our work with graduate students adds stimulus to our basic teacher education and research programs.

The Faculty of Education wishes to recognize again its appreciation to the Carnegie Corporation of New York and the W. K. Kellogg Foundation of Battle Creek for their continued support, both moral and financial, of our graduate and research endeavours.

PART II

Divisional Reports 1959-60

The reports of the four Divisions of the Faculty show more fully the variety and significance of the activities of the Faculty. The Dean is appreciative of the continued cooperation and loyalty of the staff of the Faculty of Education in Calgary and Edmonton, of the demonstration teachers who assist with our programs, of the clerical staff, and of others who have contributed to the success of our teaching and research operations during the year.

(a) *Division of Educational Administration*

A. W. Reeves—Chairman

During 1959-60 the Division of Educational Administration offered its customary graduate and undergraduate programs as part of its regular winter

session, summer session, inter-session and evening credit activities. As in former years the majority of the graduate students are M.Ed. candidates proceeding toward their degrees by summer session. There is, however, a growing number interested in the intramural program. This year eighteen graduate students registered for the regular session, eight of them for the doctoral degree. Approximately twenty graduates have already been sponsored as intramural students for the coming year.

Members of the Division have maintained interest in educational affairs at provincial, national and international levels. Necessity to do so arises not only from the unique position of the Division as the sole agency of its type in Canada, but also from an urgency to remain sensitive to the needs and developments of administrative practice. In conjunction with this function the staff participated prominently in numerous local studies, conferences and courses. Representative of these are the Banff Regional Conference of School Administrators, the Alberta Leadership Course for School Principals, the Banff Conference on School Finance and surveys of administrative organization in Medicine Hat and West Jasper Place. Nationally the Division was represented at the Canadian Education Association, the Leadership Course for Canadian School Superintendents and the Western Canada Regional Conference on Teacher Education. Two members of the staff visited a number of American universities and school centres to study university-field cooperation in the preparation of persons for administrative positions. Other American conferences and workshops in which the staff was represented include the American Association of School Administrators' Conference at Atlantic City, the Evaluation of the Stanford University Cooperative Program on Educational Administration, and the Oregon University interdisciplinary seminar.

As a result of its continued contact with practising administrators, the staff is modifying its program to include more emphasis upon field experience. This year arrangements are being made whereby several candidates will supplement their formal studies with carefully supervised internships under the guidance of competent principals and superintendents.

Staff research included studies in school finance, on the tasks of education and on organization. During the year, fourteen M.Ed. theses were completed.

(b) Division of Elementary Education

E. D. McDougall—Chairman

The primary responsibility of the Division of Elementary Education continues to be the preparation of teachers for the elementary and junior high school classrooms in the province. An almost equally important function is to provide leadership in in-service programs for certificated teachers. As in previous years, the staff has taken an active part in these in-service programs, attending about fifty conventions, institutes, and other professional conferences in the province. In addition, Dr. Jenkinson, Miss Lampard, Mr. Forbes, Dr. Worth, and Dr. McDougall were contributors at conferences in eastern Canada and in the United States. Dr. McDougall was a guest lecturer at Acadia University during the summer session.

Another responsibility of the Division is membership on curriculum and other committees of the Department of Education. Those most actively engaged during the winter session on such committees were Miss Filipkowski, Mr. Hampson, Dr. Worth, Miss Lampard, and Dr. McDougall. Mr. Hampson continued his active sponsorship of conservation of wildlife through his

illustrated lectures, extensive additions to a filmstrip series, and magazine articles. Mr. Forbes conducted special classes in art at Fort Saskatchewan under the sponsorship of the Department of Extension.

Dr. Worth rejoined the staff after a two-year period of study at the University of Illinois where he received his doctorate. He also lectured at the University of Illinois summer session. Miss Diemert joined the staff as a specialist in art education. Miss Caldwell has been studying at the University of Colorado.

The University Elementary School under the capable principalship of Mr. H. Simonson continues to be an indispensable adjunct to the Division. In the demonstration classrooms students see for themselves the influence that good teaching can have on children and youth. The facilities of the Elementary School were used on 302 occasions by the faculty.

There were contributions made to the *Alberta Journal of Educational Research*, the *A.T.A. Magazine*, and other publications, by Mr. Hampson, Dr. Worth, Dr. Jenkinson, Miss Lampard, and Mr. Nelson.

(c) *Division of Educational Psychology*

G. M. Dunlop—Chairman

The Division was staffed by Drs. Gilles, Woodsworth, MacArthur, Black, Anderson, Macdonald, Christenson, Ayers, Stewart, and Messrs. Dockrell and Schonfield, with Dr. Dunlop, Chairman. Mr. Harper is still on leave of absence.

Instruction was offered in the winter session, summer session and evening credit program in the following courses: Education 276, 308, 310, 475, 476, 478, 502, 508, 570, 574, 578, 674, 676 and 678. These courses served students at the undergraduate level as well as in programs leading to the M.Ed., Ed.D. and Ph.D. degrees.

During the winter session three intramural candidates were working toward the Ph.D. and Ed.D. degrees and one toward the M.Ed. Four students received the Ph.D. degree at the May Convocation in 1959. The number of intramural graduate students is rising and will reach a record level in the fall of 1960. The division served the usual large group of master's candidates proceeding to the degree by the Summer Session. Nine received degrees at Convocation during this academic year. The Seminar in Educational Psychology continues to be an effective part of our graduate program. Guidance of graduate study occupies a large portion of staff time.

Members of the Division are active in the work of national, provincial, university, and faculty associations and committees. Dr. Dunlop is chairman of the Educational Psychology Division of the Canadian Psychological Association and continues to serve on the three national bodies most closely concerned with educational research. Dr. Black is now the Director of the Faculty Research Committee. All members of the Division contribute to the successful operation of well over twenty-five important organizations or committees.

A representative but not complete list of research projects of divisional staff will show the research orientation of its members: Sex Differences in Spelling Ability—A Canada-wide Study, Dr. Dunlop; Canadian Spelling Demons, Dr. Dunlop; Royal Commission on Education, Three Monographs, Dr. MacArthur; Factorial Analysis of Abilities of Grade III boys, Dr. MacArthur; Intellectual Ability and Socioeconomic Status: A Factor-Analytic and Longitudinal Study, Dr. MacArthur; WISC Profile of Retarded Readers,

Professor Dockrell; Eneuresis and Hospitalization in the Second Six Months (In cooperation with Dr. K. Martin, Dept. of Paediatrics), Professor Dockrell; Function Fluctuation Observed in Total and Subtest Cognitive Performance, Dr. Anderson; The Many Selves: A Preliminary Examination into the Consistency of the Self-Concept, Dr. Anderson; Texture Preference Inventory and Design Preference Inventory, Dr. Christensen; Follow-Up of Students Entering the Faculty of Education in 1951-52 and 1955-56, Dr. Ayers; Prediction of University Freshmen Success Using Grade XII Examination Results, Dr. Black; Use of Tests in English Speaking Canadian Institutions of Higher Learning, Dr. Black; Alberta Admissions Research: A Summary of Findings, Dr. Black; Tutorial vs. Traditional Instruction at the University level, Drs. Macdonald and Dunlop; Cognitive Restructuring and Personality Change, Dr. Macdonald; Edmonton Grouping Study, Dr. Macdonald.

Typical extension activities of staff members are suggested by the following incomplete list: Speaker and Consultant at the Edson Inspectorate Institute, Dr. MacArthur; Planning and Coordination of a division of the Canadian Psychological Association, Dr. Dunlop; addresses to Home and School Associations, Dr. Macdonald; consultant to the Zone II Study of Giftedness, Dr. Black; A.T.A. Guest Speaker, Edmonton and Calgary, Dr. Macdonald; addresses to the C.E.A. Invitational Conference on Educational Research, Drs. MacArthur and Dunlop; visit to Research Centers of the Western United States under Carnegie Travel Grant, Dr. Anderson.

Professor Dockrell directed the Education Clinic which serves as a laboratory for students in clinical courses and plays a referral role for the city school systems. This year witnessed several changes in the operation of this clinic: (1) The research role has received greater emphasis resulting in two papers one of which will be presented to the American Psychological Association, the other to the Canadian Psychological Association. (2) The inauguration of a group therapy program, which adds a new dimension to the clinical program. (3) Closer cooperation with the Department of Psychiatry and the Department of Paediatrics in the University and University Hospital. (4) Acceptance of referrals from the Edmonton Sight Saving Classes as well as from the Hard of Hearing and Opportunity classes of the city systems.

(d) *Division of Secondary Education*

H. S. Baker—Chairman

Statistics of the past four years show a sharp and steady rise in the number of students enrolled in the secondary route of the B.Ed. program. From 1956-57 to 1959-60 the figures are as follows: 229, 328, 449, 655. Similarly, the number of graduate students working in the Division has increased steadily to the present total of 168—mostly M.Ed. candidates proceeding to their degrees in the summer session. The Division will graduate its first doctoral candidate this spring. A second will join the staff of the Faculty of Education at Calgary this fall.

Unprecedented enrolments, together with deferred appointments in science and business education, necessitated special staff assistance during the year. Invaluable service was rendered by readers and markers in Education 200 and 201, and in Education 280S social studies, mathematics, and science. An assistant in science education operated throughout the year; courses in education were offered by high-school specialists. The Division acknowledges with thanks contributions to its basic method course by the School of Physical

Education, the Departments of Home Economics and Fine Arts, as well as by the Division of Elementary Education.

An important development in interfaculty cooperation has been the offering of liberal arts courses in English and mathematics by members of the Division. This kind of relationship will continue next year in mathematics and science.

In line with its policy of strengthening the subject-matter competence of students, the Division has increased the content prerequisites for its courses in education method, and has made available senior education options in the subject fields. It has also approved the substitution of a content course for a senior education option.

Similarly, steps have been taken to strengthen the graduate program. Students are now asked for an early formulation of research interests so that these may be better integrated with course work. The Division has arranged for the initial offering of its new course in comparative education, during the 1960 summer session, by an international authority in this field.

While the "extracurricular" activities of the staff members are too numerous to be detailed in terms of personalities, the following categories should be noted.

Evening credit and extension programs: courses in educational philosophy, English, and mathematics.

Other extension activities: talks to and meetings with teachers and teachers' organizations, school superintendents, home and school associations, etc.

Curriculum development: extensive participation on Departmental committees.

Publication: research reports, periodical writings, textbooks.

Experimental classes: especially in mathematics.

With additional staff in the fall of 1960, the Division expects not only to improve the quality of pre-service education, but as well to increase its contributions to research and to other activities of the kind listed above.

Report of Dean G. W. Govier of the Faculty of Engineering

Staff Changes

A number of important staff changes were made during the 1959-60 session in the Faculty of Engineering. Dr. R. M. Hardy who has been Dean of the Faculty since the spring of 1947, resigned his position effective June 30th, 1959, to devote more time to his practice as a consulting engineer. The faculty continues to benefit from his services through his acceptance of an appointment as part-time Research Professor of Civil Engineering September 1st, 1959. Dr. G. W. Govier, Head of the Department of Chemical and Petroleum Engineering since September, 1948, relinquished that position to accept the position of Dean of the Faculty. Professor L. E. Gads who has for a number of years served as Secretary to the Faculty of Engineering was appointed Associate Dean. Dr. D. B. Robinson was appointed Head of the Department of Chemical and Petroleum Engineering; Professor S. R. Sinclair was named Head of the Department of Civil and Municipal Engineering (the name was officially changed to the Department of Civil Engineering during the 1959-60 session); and Dr. George Ford was appointed Head of the newly formed Department of Mechanical Engineering. Only two additions were made to the regular full-time teaching staff, these being Assistant Professor J. J. Bakker and M. J. Baron both in Civil Engineering.

The regular full-time total staff of the Faculty of Engineering include, 8 in the Department of Chemical and Petroleum Engineering, 17 in the Department of Civil Engineering, 7 in the Department of Electrical Engineering, 7 in the Department of Mechanical Engineering, 5 in the Department of Mining and Metallurgy and 2 in the Faculty of Engineering in Calgary. A total of some 40 sessional instructors (mostly part-time) assisted in the teaching duties of the Faculty.

Enrolment

The total undergraduate registration in the Faculty in the 1959-60 session was 1,173 including 68 registered in the first year of engineering in Calgary. This total may be compared with a total of 1,240 in the 1958-59 session and 1,134 in the 1957-58 session. The decrease in registration was caused by a decrease in first year to 331, compared with 455 and 476 in the previous two academic sessions. This reflects a decline in the proportion of senior matriculants electing engineering from some 24% to 28% during the period 1956 to 1958 to a sub-normal level of about 16% in 1959. A return to a more normal proportion of 18% to 20% is expected in the fall of 1960.

Decreases in first year registrations in Engineering in both 1958 and 1959 were observed at almost all Universities in Canada and the United States. Presumably this was due, at least in good part, to a false appraisal and publicity suggesting a saturation in opportunities for engineering graduates.

The distribution of the undergraduate registrations through the years of the programs and among the branches of engineering for the 1959-60 session follows.

Branch	Year of Program			
	First	Second	Third	Fourth
Chemical .....	.....	51	38	40
Civil .....	.....	111	79	69
Electrical .....	.....	130	77	48
Eng. Physics .....	.....	.....	12	9
Eng. Geology .....	.....	1	.....	.....
Mechanical .....	.....	38	45	21
Metallurgical .....	.....	4	8	1
Mining .....	.....	2	7	4
Petroleum .....	.....	12	18	17
Sub-Total—Calgary	68	.....	.....	.....
Sub-Total—Edmonton	263	349	284	209
Total	331	349	284	209

It is to be noted that the graduating class numbers 209 students as compared with 175 in the 1958-59 session.

A total of 75 students were registered in graduate programs in engineering divided as follows:

Branch	M.Sc. Program	Ph.D. Program
Chemical	14	2
Civil	36	2
Electrical	7	.....
Mechanical	1	.....
Metallurgical	7	.....
Mining .....	.....	.....
Petroleum	6	.....
Total	71	4

Curriculum

Further curriculum revisions were approved during the 1959-60 session for implementation in 1960-61. The most important of these changes involved the curricula in Civil Engineering and in Electrical Engineering. In Civil Engineering new pattern programs in Structures, Highways, Soil Mechanics, Hydraulics and Municipal Engineering were introduced in the fourth year. The entire fourth year of the program in Electrical Engineering was revised with a strengthening and modernization of the patterns in Power and Electronics. The previously rather rigid programs in the fourth years of Chemical, Civil, Mechanical and Electrical Engineering were made more flexible by the introduction of certain optional courses. Included in the optional courses available is a new half-year course in Numerical Analysis and Modern Computational Methods. A new half-year course on the Practice of the Engineering Profession was introduced into the senior year of all programs. This course is designed to acquaint the graduating engineer with the role of the engineer in society, his technical and professional responsibilities and the ethics of the engineering profession.

A number of new courses at the graduate level and rearrangements of previously offered courses were introduced in Chemical, Civil, Mechanical and Metallurgical Engineering. Approval was given to the Department of Mining and Metallurgy to offer programs leading to the M.Sc. and the Ph.D. in Metallurgy and to the Ph.D. in Metallurgical Engineering. Ph.D. programs are now available in Chemical, Civil and Metallurgical Engineering.

Equipment and Facilities

Work is proceeding on the construction of the new addition to the Engineering Building which will provide much needed additional space for the Faculty—primarily for the Departments of Electrical Engineering and Mechanical Engineering. Completion of the new addition is not anticipated until January or February 1961. A new laboratory, primarily designed for graduate work and research in Hydraulics, was completed on the west side of the campus. Plans have been completed for the expansion of the Department of Chemical and Petroleum Engineering in the basement of the west wing of the Medical Building, which is expected to be vacated by the Department of Chemistry in the fall of 1960.

In the Department of Chemical and Petroleum Engineering important additions have been made to equipment used in both graduate and undergraduate work in Petroleum Production and Petroleum Reservoir Engineering. This includes equipment for studying the behavior of gases, the behavior of reservoir condensate systems and the mechanisms of various fluid displacement processes in porous media. The development of an instrumentation laboratory has continued and an automatic process control network has been completed. Several new precision measuring instruments for use in this and other laboratories have been obtained. A Fastax high speed motion camera for use in research on two-phase flow was purchased under a National Research Council grant.

In the Department of Electrical Engineering, a complete new set of experiments for the course in Electrical Circuits was developed with new equipment being purchased, designed and built for the purpose. Modernization of the equipment used in other laboratory course was continued.

In the Department of Civil Engineering the most significant developments

in equipment related to the commissioning and putting into operation of the new Graduate Hydraulics Laboratory.

The Department of Mechanical Engineering continued to operate with equipment temporarily housed in the Department of Public Works Power Plant south of the Jubilee Auditorium. While some new equipment was acquired during the year the majority of the permanent equipment required for laboratories in Mechanical Engineering will not be obtained until the Department moves into permanent quarters in the addition to the Engineering Building.

The Department of Mining and Metallurgical Engineering acquired a Perkins Elmer Infrared Spectrophotometer through funds made available by the National Research Council. Other important additions to the research equipment of the Department were also made.

Research Activities

Research activities, many of them associated with graduate student programs, were continued in all departments. The activities of the Departments of Electrical Engineering and Mechanical Engineering were restricted because of the inadequacy of the present facilities and the related small registration of graduate students.

Details of the research work of the Departments and the individual staff members are indicated in Table I, while Table II lists the Master of Science theses actually completed during the period under review. In the Department of Chemical and Petroleum Engineering 21 individual research projects were underway and 13 Master of Science theses were completed. The Department of Civil Engineering had some 30 individual projects in progress and 14 Master of Science theses were completed. The Departments of Electrical and of Mechanical Engineering and the Department of Mining and Metallurgy were carrying out research on 3, 7 and 17 separate projects respectively.

Scientific publications of members of the Faculty staff during the year total some 24 and are listed in detail in Table III. This listing does not include progress reports submitted to sponsoring agencies nor scientific and technical papers presented at meetings but not yet published. Typical of the numerous latter were the following presented by members of the Department of Mechanical Engineering:

- D. Panar—"Design of a Gas Turbine Power Plant", presented at Edmonton and Calgary Branches, American Society of Heating and Ventilating Engineers, May, 1959.
- D. Panar—"The Economics of an Industrial Gas Turbine Installation", presented at the National E.I.C. Conference, Winnipeg, Manitoba, May, 1960.
- G. Ford—"An Analytical Procedure for Determination of Natural Frequencies of Machine Foundations", presented at the National E.I.C. Conference, Winnipeg, Manitoba, 1960.

Extension and Professional Activities

Members of the Faculty staff continue to play an important role in the extension activities of the University and in professional work. The Departments of Chemical and Petroleum Engineering, Civil Engineering, Electrical Engineering and Mechanical Engineering in particular, have served industry and individuals in connection with the conduct of tests on engineering

materials including concrete, metals, electrical insulators, clay minerals, crude oils and the like.

The Department of Civil Engineering offered courses through the Extension Department in methods of Topographic Surveying. Mr. J. J. Bakker offered a series of lectures in Town Planning at a short course in Banff.

The Contraves Network Analyser in the Electrical Engineering Department was used in a number of investigations for the Calgary Power Company and the Saskatchewan Power Commission. The Department of Electrical Engineering co-operated in the official testing of the 20/30 MW gas turbines at the City of Edmonton Power Plant. Members of the staff of the Department co-operated in the offering of an evening course under Department of Extension sponsorship on Transistors and Semi-Conductors. A short course on Power Systems Analysis was also given under similar auspices.

Professor Patching of the Department of Mining and Metallurgy co-operated in a short course on Prospecting. Professor J. G. Parr of the same Department gave radio talks on assorted subjects and lectures on Metallurgy to the Calgary section of the American Society of Metals.

Noteable among those who have given public addresses on engineering subjects and talks on engineering to high schools students are Associate Dean L. E. Gads, Professor J. G. Parr, Dr. D. B. Robinson, Dr. D. L. Flock and Professor E. O. Lilge.

Associate Professor D. Panar of the Department of Mechanical Engineering continues to serve as Mechanical Engineering Advisor and University Liaison Officer to the Department of Public Works. Dr. G. W. Govier continues his association with the Oil and Gas Conservation Board of Alberta and was appointed Deputy Chairman of that Board in August 1959. Appointed Chairman of a special "Alberta Technical Committee" to advise the Provincial Government on a proposed underground nuclear test in the Athabasca Oil Sands, Dr. Govier tendered the report of the Committee in September, 1959.

Members of the Faculty staff have been active in various professional and technical associations. A few of the more prominent were Professor S. R. Sinclair who served as Chairman of the Edmonton Branch of the Engineering Institute of Canada, Associate Professor J. Longworth who succeeded him, Associate Professor P. H. Bouthillier who was President of the Western Canada Water and Sewer Convention held in Edmonton, Professor E. O. Lilge, who served as a member of the Commonwealth Committee to Co-ordinate Fundamental Research in Mineral Processing and who was a Director of the Edmonton Chamber of Mines, Associate Professor W. H. Stilwell who was President of the Calgary Branch of the Royal Astronomical Society of Canada and Professors J. A. Harle and J. W. Porteous who continued their memberships in the Training Committee of the Provincial Advisory Committee on Civil Defence.

TABLE I
Research in Progress in Faculty of Engineering
Period July 1, 1959 to June 30, 1960

Supervisor	Project	Financial Support for Project	Student	Financial Support for Student
<i>Department of Chemical and Petroleum Engineering</i>				
D. L. Flock	Vaporization Loss from Crude Oil	None	P. M. Dranchuk	None—on staff
D. L. Flock	Effect of Initial Gas Saturation on Ultimate Recovery	RCA	S. A. Qayum	RCA
D. L. Flock	Miscible Fluid Drive in Petroleum Reservoirs	NRC	C. R. Winter	NRC
D. L. Flock	Effect of Gas Saturation on Flooding Pattern Efficiencies	RCA	I. D. R. Neilson	None
R. T. Hart	Bacteria Plugging of Water Injection Wells	RCA	T. Fekete	RCA
R. T. Hart	Particle Size Distribution in Oil Well Drilling Fluids	U. of A.	P. P. Kovacs	RCA
D. B. Robinson	Compressibility Factor in Natural Gas Containing CO ₂ and H ₂ S	NRC	T. Raczuk	NRC U. of A.
D. B. Robinson	Hydrates in the Methane-Ethylene-Propylene System	NRC	L. E. Snell	NRC U. of A.
D. B. Robinson	Vapor-Liquid Equilibrium in CO ₂ -NH ₃ -H ₂ O-Monoethanolamine System	None	A. Rahman	Colombo Plan
D. B. Robinson	Fluidization of Mixed Sized Particles	None	G. Davies	RCA
D. B. Robinson	Catalytic Dehydrogenation of Alcohols	Can. Chem.	K. Hansen	Can. Chem. U. of A.
D. B. Robinson	Phase Behavior in the n-Butane-Hydrogen Sulphide System	NRC	J. Sandercock	Shell Fellowship
D. Quon	The Production of Carbon Black from Liquid Hydrocarbon Feedstocks in a Surface Combustion Reactor	RCA	Pei Hsi Hwang	None
D. Quon	Pyrolysis of Propane for the Production of Acetylene and Ethylene	RCA	F. Werth—on staff D. Batcheller and A. Alcorn	None NRC U. of A.
G. W. Govier G. W. Govier	Pipeline Flow of Sulphur Suspensions Simultaneous Flow of Two Immiscible Liquids in a Horizontal Pipeline	NRC RCA	M. E. Charles	RCA

TABLE I—Continued

Supervisor	Project	Financial Support for Project	Student	Financial Support for Student
G. W. Govier	Horizontal Flow of Gas Liquid Mixtures	NRC	M. M. Omer	Colombo Plan
G. W. Govier	The Upwards Vertical Flow of Oil-Water Mixtures: Effect of Second Phase Viscosity on Pressure Drop, Flow Pattern and Holdup	NRC	R. K. Wood	NRC
G. W. Govier	Vertical Flow of Two Phase Systems	NRC	R. A. S. Brown	U. of A. Prov. of Alta. Grad. School
G. W. Govier	Rheological Behavior of Pembina Crude Oil	NRC	R. A. Ritter	None—on staff
G. W. Govier	Horizontal Flow of Gas Liquid Mixtures	NRC	K. Aziz	U. of A. NRC Plan. Amer. Fellow.
<i>Department of Electrical Engineering</i>				
Approximately 20 individual projects, in addition to those on which Master of Science theses were completed (see Table 2), were underway in the fields of Hydraulics, Structures, Soil Mechanics and Foundations and Highways. Many of the projects in the Soil Mechanics and Highways fields, were under the co-sponsorship of the Research Council of Alberta. Other projects had the support of the National Research Council.				
<i>Department of Civil Engineering</i>				
J. A. Harle and R. E. Phillips	Restriking Voltage Transients on Network Analyser	None	G. Swift	Prov. of Alta. Grad. Scholarship
J. A. Harle and R. E. Phillips	Network Analyser Accuracy	None	M. M. C Collins	Prov. of Alta. Grad. Scholarship
J. W. Porteous	Microwave Luneberg Lens	None	G. Bidulock	None
<i>Department of Mechanical Engineering</i>				
J. S. Kennedy and G. Ford	Transverse Curvature of Plates Under Large Deflections	None	D. Bellow	None—on staff
J. S. Kennedy and G. Ford	Elastic Instability of a Pony Truss	RCA	F. Lukawitski	RCA
G. Ford	An Analysis of Strain in Concrete Pavement Steel	DOH	W. Babowal	DOH
		RCA		RCA
		DOH		DOH

G. Ford and J. S. Kennedy	Thermal Coefficient of Concrete	RCA DOH	H. Basler	RCA DOH
G. Ford	Inelastic Properties of Concrete	RCA DOH and U. of A.	W. G. Leslie	RCA DOH and U. of A.
G. Ford	The Effect of Prestrain on the Transition Temperature of Mild Steel	None	W. G. Sterling	None
G. Ford and S. H. Simmonds	Further Studies in Stress Strain Relationships of Lightweight Concrete	None	D. J. Taylor	None
<i>Department of Mining and Metallurgy</i>				
J. Leja	Application of Interferometry to the Study of Corrosion Rates	NRC	F. W. Yakymyshyn	NRC
E. O. Lilge and W. V. Youdelis	Thermodynamics and Kinetics of Leaching Processes	EM and R	J. Haik (RA) and O. E. Deslaurier	EM and R
J. Leja and E. O. Lilge	Nature of Complex Anions in Dilute Uranyl sulphate Solutions	EM and R	G. Poling (RA)	EM and R
E. O. Lilge	Use of Activated Carbon in Uranium Extraction	EM and R	J. Haik (RA)	EM and R
J. Leja and E. O. Lilge	The Oxidation of Sb_2S_3 During Roasting	EM and R	R. A. Bramley-Moore	EM and R
E. O. Lilge and D. J. Ingheuzian	Research in Grinding of Ores	EM and R	R. S. Kinasewich	EM and R
E. O. Lilge	Heavy Medium Research Using the Hydrocyclone	EM and R	P. Clarke (RA) and R. C. McCulloch (RA)	EM and R
J. Parr	Investigations of Ti-Al Alloys	DRB	J. Goldak	DRB
J. Parr	Investigations of Ti-Co Alloys	DRB	R. Taggart (RA) and G. Purdy (RA)	DRB
J. Parr	Investigations of Ti-Ni Alloys	INCO	J. Barton (RA) and G. Yurko	INCO
J. Parr	Investigations of Zn-Al Alloys	CM and S	D. Grekul	CM and S
J. Parr	Investigations of Zr-O-H Alloys	AEC	Singh (RA)	AEC
J. Leja and J. Parr	Corrosion Research	NRC	F. Yakymyshyn	NRC
T. Patching	Strata Stress Phenomena in Alberta Coalfields	MTS	.....	None

TABLE I—Continued

Supervisor	Project	Financial Support for Project	Student	Financial Support for Student
T. Patching	Grinding Characteristics of Coal	MTS	.....	None
W. Youdelis	Electro-Magnetic Effect of Solidifica- tion Mechanism of Binary Alloys	NRC	D. Colton	NRC
W. Youdelis	Stress Corrosion Cracking	None	.....	None
W. Youdelis	Thermodynamics of Solutions as Relat- ed to Solids under Generalized Stress	None	.....	None
Abbreviations for Table I				
	RCA	—Research Council of Alberta		
	NRC	—National Research Council		
	DOH	—Department of Highways, Province of Alberta		
	EM and R	—Eldorado Mining and Refining Company		
	DRB	—Defence Research Board		
	INCO	—International Nickel Company		
	AEC	—Atomic Energy Commission		
	CM and S	—Consolidated Mining and Smelting Company		
	MTS	—Department Mines Technical Survey, Ottawa		
	RA	—Research Assistant, not graduate student		

Report of Dean A. G. McCalla of the Faculty of Graduate Studies

The Faculty of Graduate Studies has continued to show rapid growth during the past year. There were more admissions, more scholarships, and more enquiries from more countries than in any other year. One quantitative measure is the number of applications for scholarships. Two years ago there were twenty applications, many from students who had only fair academic records. Last year there were 68 applications and the major awards were all made to students with first class records. This year there were over 150 applications and, while some were certainly from unrealistic optimists, all major awards again will be made to first class students.

The number of degrees awarded in 1959 was much higher than ever before. The distribution still was weighted on the science side as shown by the following totals: M.A., 15; M.Ed., 27; M.Sc., 46; Ph.D., 8; and D.Sc., 1. The Division of Secondary Education will graduate its first Ph.D. candidate this spring.

Once again some additional major scholarships can be reported. The Francis F. Reeve Foundation has made available three Graduate Bursaries of \$2,400 each and six Intersession Bursaries of \$800 each, open to students in any field. These are acknowledged with the sincere thanks of the Faculty. The monetary values of some other awards have been increased. Some graduate students took advantage of the grant and loan assistance made available through the Student Assistance Board. These grants and loans, added to the substantial scholarships from the Province of Alberta gave graduate students approximately \$55,000 not available previously. Departmental teaching assistantships are now available on an unprecedented scale so that most graduate students can be given financial aid, and many are getting useful teaching experience.

Intersession registration was up considerably from last year and students who were awarded scholarships on a twelve month basis welcomed the opportunity of devoting full time to research during the summer. An additional group will be enabled to do this during the coming summer as a result of the awarding of the Intersession Bursaries.

The registration figures are summarized in the two tables given below. Once again the largest increase in numbers is for the winter session. The following figures omit the special students registered in the graduate medical training program:

Session	Number of Students		
	1957-58	1958-59	1959-60
Winter	285	328	435
Summer	148	152	171
Evening Credit	44	35	33
Duplicates	—57	—33	—58
Total	420	482	581

This year the largest increase is in the number of M.Sc. students, and a considerable part of the increase was in the various fields of Engineering. The distribution during the winter session was as follows:

Degree	Number of Students		
	1957-58	1958-59	1959-60
Master of Arts	48	55	60
Master of Education	55	50	73
Master of Science	111	109	189
Doctor of Philosophy	36	69	95
Doctor of Education .....	.....	6	5
Total	250	289	422
Provisional students	35	37	30
Special students .....	.....	33	43

The Summer Session attracted more teachers than in any previous year. In future students, who meet residence requirements for the M.Ed. by attendance at Summer Sessions only, will have to register for three such sessions rather than the two previously required.

Applications from outside Canada have increased remarkably. Over 150 applications have been received from India alone. Undoubtedly the increase is due partly to the more adequate announcements distributed but it is also due to the growing reputation of the University. Admissions of foreign students are also up considerably. This winter we have had 67 students from outside Canada. The distribution is as follows: India, 17; U.S.A., 11; Scotland, 8; Pakistan, 7; England, 6; Hong Kong, 6; Japan, 3; Netherlands, 2; and one each from Australia, Egypt, Ghana, Greece, Guatemala, Trinidad and Turkey. These students are in a wide range of programs and working towards all advanced degrees except the Ed.D. Most of them would be unable to attend without some financial assistance although a few have come without this or with scholarships from their own country.

During the year the Faculty adopted permanent designs for the academic costumes appropriate to all doctor's degrees. It was decided to adopt the designs and colors of the Intercollegiate Code. The University is designated by the lining of the hoods—gold satin with a 6 inch green chevron. The Degree is designated by the velvet trim, Philosophy blue for the Ph.D.; light blue for the Ed.D.; yellow-gold for the D.Sc.; and white for the D.Litt.

The business of the Faculty has run smoothly and I wish to express my special thanks to Miss Louise Peers who, as Secretary, has done excellent work; and Mr. R. Wishart, without whose assistance our scholarship applications could not have been dealt with on schedule. Members of the Council of the Faculty have cooperated fully and have willingly taken on extra duties when necessary.

Report of Dean W. F. Bowker of the Faculty of Law

Academic

The number of students in attendance was as follows:

Law I	47
Law II	33
Law III	28
	108

The first year class was the largest in ten years and its members have shown a high degree of interest, ability and industry.

The changes in curriculum that were put into effect last fall are an improvement but doubtless modifications will be made.

The need for a longer period of lectures has been apparent for some time and effective next fall the number of weeks will be increased from 25 or 26 to over 28.

The faculty always tries to have some outside lecturers give extra-curricular talks on matters of interest to the students. This year we had a good series of lectures on oil and gas law—Messrs. W. C. Clark, D. C. Williams, D. E. Lewis and W. Henricks. The last three are solicitors for oil companies in Calgary and came to Edmonton at their own expense and gave valuable talks.

The Alberta Law Review established four years ago is on a sound footing. It is published by the students with faculty help and has been well received by the profession.

Of our graduates, two are engaged in further study. Ivan Head is at Harvard and Roy Stuart is at Oxford on a Rotary Foundation Fellowship.

This year for the first time in history, the faculty had five full-time members. This is a step forward, for the trend to larger full-time staffs is general throughout Canada.

Library

Accessions have continued at about the same rate as in the past several years. The faculty is attempting to estimate its needs for the next five years. We hope to add many publications that will raise the standard of the library. The problems of space and financing will of course have to be solved.

The Faculty and The Profession

We have continued to have excellent relations with the Law Society of Alberta. The Dean is invited to all meetings of Benchers when legal education is under discussion. Indeed the Benchers have shown this year a new interest in the future of the law school and also in the subject of the teaching of ethics.

The faculty have taken an active part in the affairs of the Law Society and of the Canadian Bar Association. Two of the staff took part in the programme at the Annual Meetings of these organizations in January and two have done substantial work in connection with the Annual Meeting of the Canadian Bar Association and one has a major part in the planning of the 1960 meeting at Banff of The Institute of Public Administration.

Report of Dean Walter C. MacKenzie of the Faculty of Medicine

It is my pleasure to present to you my first report on the activities of the academic year just ended in the Faculty of Medicine. My first duty is to convey to you and the members of the Board of Governors, on behalf of the members of the Faculty of Medicine, our appreciation of your continued support in the provision of staff and budget, which makes it possible for us to fulfil our first obligation to the Province of Alberta—that is, the training of physicians.

At the Convocation for Dentistry and Medicine on June 6th, 51 young men and women received their doctorate in Medicine. Dr. Ray F. Farquharson, Sir John and Lady Eaton Professor of Medicine, and head of the Department of Medicine, the University of Toronto, 2nd vice-president of the National Research Council, received an honorary degree at the same convocation, and in so doing, added lustre to our list of honorary graduands.

In our Faculty in the last few years there have been numerous curricular changes as the result of prolonged discussions about newer methods of teaching. A large delegation of our Faculty members attended the International Con-

ference on Medical Education, held in Chicago in the first week of September, and brought back to the campus many useful ideas in this field. One factor seems to evolve from discussions in all parts of the country—that is, that clinical teaching has been most effective when the various clinical disciplines have been taught in small groups by seminar and tutorial methods, making the student part of a team in the actual care of the patients. This change necessitates an increase in the number of instructors required in clinical departments, and also makes it mandatory that we have a nucleus of geographic full-time people situated in the Hospital, which is the workshop of the Faculty at all times of the day. This nucleus of full-time people is necessary to provide supervision of teaching, while at the same time making a real contribution to the research effort in the clinical fields. However, it has been our experience that the attitude of mind and interest of the teacher is of the utmost importance in his contribution to the welfare of the medical student. These attributes are found in part-time teachers, as well as in those who have dedicated themselves to perhaps a more complete academic environment.

The advent of hospital insurance across Canada has been studied carefully with regard to its influence on undergraduate and postgraduate teaching programmes. The recognition, by the responsible authorities, of the very special place of teaching hospitals in the production of a new generation of doctors is of the utmost importance. We, in common with all medical schools in Canada, are hopeful that the recognition that such an institution is the workshop of the Medical School, with special requirements on this account, will be universally accepted.

Our pre-clinical and clinical departments are particularly indebted to national granting bodies who have been so helpful in supporting various research projects in the Medical School. The National Research Council, the Departments of National Health and Welfare and Defence, the National Cancer Institute, the Research Foundation of the Canadian Life Insurance Officers' Association, the McLaughlin Foundation, the Muttart Foundation, the C. W. Carry Foundation, and various others have been invaluable in their support of basic and clinical research.

The following distinguished Medical Scientists were visitors to our Faculty in the past year:

Dr. J. P. Hubbard, Professor and Head of the Department of Public Health and Preventive Medicine, the University of Pennsylvania, whose visit was made possible by an award from the Journal of Paediatrics Education Foundation Home Lectureships;

Dr. Stanley James, Columbia University;

Dr. Sydney Segal, the Department of Paediatrics, the University of British Columbia;

Dr. Ronald Raven, London, England;

Professor F. E. Stock, Professor of Surgery, Dean of the Faculty of Medicine and Pro Vice Chancellor of the University of Hong Kong;

Professor C. F. W. Illingworth, Professor of Surgery, the University of Glasgow;

Dr. A. D. MacKenzie, Professor of Surgery, the University of British Columbia;

Dr. A. Thal, Assistant Professor of Surgery, the University of Minnesota;

Professor E. J. Wayne, Regius Professor of Medicine at Glasgow University, Scotland, who visited here as Sims Travelling Professor;

Dr. D. G. Cameron, Physician in Chief, Montreal General Hospital;

Doctors J. S. L. Brownlee, and E. H. Venning, Professors of Medicine, McGill University, Montreal.

Dr. Robert Kinch, Professor of Obstetrics and Gynaecology, University of Western Ontario.

Dr. Harry Medovy, Professor of Paediatrics, University of Manitoba, Winnipeg, Manitoba;

Dr. Jean Webb, Director, Child and Maternal Division, Department of National Health and Welfare, Ottawa, Ontario.

Dr. J. D. Ross, Minister of Health, Province of Alberta, Edmonton, Alberta;

Dr. Larry Longo, University of California, Los Angeles, California;
and Dr. Charles H. MacKenzie, Minneapolis, Minnesota.

The following honours have come to members of the Faculty of Medicine in the past year:

Dr. H. B. Armstrong	President of the Canadian Pediatric Society
Dr. K. Baker	Fellowship of the Royal College of Surgeons of Canada
Professor R. J. Bury	Fellowship in the American College of Surgeons
Dr. G. W. Cameron	Canadian Exchange Travelling Orthopaedic Fellowship to Great Britain
Professor H. B. Collier	Vice-President of the Canadian Association of University Teachers
	Discussion leader by invitation at the Couchiching Conference on "Changing Asia"
Dr. W. C. Cottle	Contributor at the International "Symposium on Colds" at Buenos Aires
Dr. M. K. Cottle	Discussant at the International "Symposium on Cold" at Buenos Aires
Dr. E. F. Donald	President of the Alberta Division of the Canadian Medical Association
Dr. H. E. Duggan	Appointed by Minister of National Health and Welfare to the Executive Council of the Advisory Committee on the Clinical Uses of Radioactive Isotopes
Dr. E. A. Gain	President, the Canadian Anaesthetists' Society
Dr. J. Guild	Vice-President, the Alberta Psychiatric Association
Dr. S. Greenhill	Fellow of the American College of Physicians
Dr. K. A. Hamilton	Fellow of the Industrial Medical Association
	Alfred P. Sloan Visiting Professor at the Menninger Clinic
Dr. R. C. Harrison	Nuffield Travelling Fellowship
	Membership in the Society of University Surgeons
Dr. C. M. Kay	Attended the Gordon Research Conference on Proteins and Lipids
Dr. L. J. Le Vann	Elected to the Royal Society of Medicine, London, England
Dr. W. C. MacKenzie	A Somner Memorial Lectuer, Portland Oregon
	William Mitchell Banks Memorial Lecturer at Liverpool, England
	Visiting Professor, St. Bartholomew's Hospital, London, England
	Member of the Council of the Royal College of Physicians and Surgeons of Canada
	Dean of Medicine, September 1, 1959
Dr. J. K. Martin	Chairman, Medical Advisory Board, the Alberta Council for Crippled Children and Adults
	Co-chairman, Scientific Programme Committee, Canadian Paediatric Society
	Co-chairman, Alberta Committee, Canadian Conference on Children, 1960

	Member of Planning Committee for the Conference on Special Education
	Member of the Educational Committee, Canadian Paediatric Society
	Member of the Subcommittee on Research of the Maternal and Child Health Advisory Committee.
Dr. C. W. Nash	Member of the Council of the Pharmacological Society of Canada
Dr. J. W. Pearce	Member of the Council of the Canadian Physiology Society
Dr. H. Pascoe	Fellow of the Royal College of Physicians of Canada
Dr. E. J. K. Penikett	Degree of Ph.D. in Faculty of Medicine, the University of London
Dr. I. E. Pearce	Recipient of the 1st J. B. Collip Medal for merit in Graduate Study in Medical Science, the University of Western Ontario
Dr. E. T. Pritchard	Attended the Gordon Research Conference on Proteins and Lipids
Dr. H. E. Rawlinson	President, National Cancer Institute of Canada
Dr. A. R. Schrag	Citation from the Canadian Mental Health Association, Alberta Division
Dr. J. W. Scott	President, the Royal College of Physicians and Surgeons of Canada
Dr. R. F. Shaner	Visiting Professor, the Department of Pathology, Washington University Medical School, St. Louis, Mo.
Dr. Mary Spencer	National Research Council Travelling Grant Invited to be a discussion leader at the Gordon Research Conference on Proteins and Lipids and to give a paper.
Dr. R. D. Stuart	Fellow of the American Public Health Association Member of the Executive of the Canadian Association of Medical Bacteriologists
Dr. J. S. Thompson	Appointed Assistant Dean, Faculty of Medicine Secretary-Treasurer, the Association of Canadian Medical Colleges
Dr. M. W. Thompson	Member, Editorial Board, the Canadian Journal of Genetics and Cytology
Dr. R. K. S. Thompson	Chairman, Economics Committee of the Canadian Medical Association for 4th consecutive year.
Dr. D. Triantaphyllopoulos	Senior Research Assistantship of the National Research Council
Dr. J. Tuba	Nuffield Foundation Travel Grant for visit to Medical Schools in the United Kingdom
Dr. D. R. Wilson	Member of the Council of the Royal College of Physicians and Surgeons of Canada

The Medical Library

The medical library continues to provide service to practising graduates, graduate students and undergraduate students of medicine, dentistry, pharmacy, physiotherapy and nursing. During the year some 24,500 books and periodicals were circulated, including about 6,700 volumes provided on loan to members of the staff and to both city and rural doctors. An approximate attendance of 60,000 was recorded, with about one third of this number arising from use of the reading facilities in the evenings.

During the year, over 500 new books and 21 new periodicals were added to the medical library; the total number of bound volumes of all types now approaches 20,000. Many periodicals are still unbound, however, and a large number of back issues of periodicals are still needed to complete series of important journals. The library obtained 96 items on interlibrary loan, provided 64 items for the same purpose and also prepared 215 photostats for use by doctors outside the city. Much time has also been spent by the library staff in reference work both for students and for members of the medical profession.

Committee on Graduate Training

This committee was inaugurated as a Dean's committee immediately after World War II when the demand for graduate training courses for young physicians returning to civilian life after years of service in the Armed Forces was great. To help to meet this demand our Faculty decided to offer such courses of study. It then became necessary to gather information by visiting several American medical centres and to have interviews with the many authorities that grant approval for such courses, to find out whether we had in our midst not only facilities for carrying out the training, but the readiness by the members of our teaching staff to actively participate in this venture of great responsibility and importance. The Chairmanship of this Committee was placed at that time in the hands of Dr. M. R. Marshall, Professor of Ophthalmology and Otolaryngology. It is a tribute to the devotion of Dr. Marshall to his task that today we have a mature, well-integrated programme of graduate training, which has grown steadily since that time. I would like to record in these pages the debt of the University of Alberta Medical School to Dr. Marshall for his enthusiastic leadership in this important field during those years when this whole problem had to be explored and the groundwork for future development had to be well conceived and planned. Dr. Marshall has been able to initiate and coordinate the enthusiastic support of all teaching members of our Faculty including those directing our research activities. We are all particularly grateful and owe a special debt of gratitude to him for the leading role he has played at every stage of our development.

A total of 49 trainees have taken and completed our graduate training courses. We now have 34 trainees taking courses all in our clinical and basic science departments. Seventy five per cent of our trainees who tried their specialist examinations were successful, and this includes all fields. In the words of Dr. Marshall, "our greatest responsibility as teachers is to guide, encourage, stimulate, urge and even force our trainees to study", and he, by his example, has led the way in this field.

The responsibility of our Selection Committee is great and its most important duty is to recommend for training, candidates who by past performance have indicated the possession of qualities of a high order. They must be young men of ability with willingness to work hard and to study harder than they have ever done before. We do not want young men just to fill hospital positions. We want young men of ambition who are willing to serve, and at the same time prepare themselves for examinations and for the practice of their chosen specialty. Everyone of our trainees should be superior to the average hospital resident.

The success of graduate training depends not only on the selection of trainees but also on the preparation of the training programmes. Dr. Marshall and the members of this committee have always had as their policy the

appointment of a Special Advisory Committee of two or three members of our teaching staff for each graduate trainee. After discussion with the trainee concerned, the advisory committee prepares a training programme for the approval and consideration of the Head of the Department and the Graduate Training Committee. It is to be hoped that in the future we shall not deviate too far from this practice and that we shall not adopt the rigid methods of some other centres where trainees are treated as a group and all fall into the same pattern—the one and only pattern.

The Department of Anaesthesia

Chairman, Professor E. A. Gain

This department has continued to contribute successfully to the clinical teaching in the fourth year, and this has been primarily on a practical basis, the student actively becoming part of the treatment team in the Department of Anaesthesia, in the hospital operating room, for a limited period of time. The Department of Anaesthesia has continued to carry out a liaison with the Department of Pharmacology by Dr. D. F. Cameron's participation in the teaching of both departments.

The Department of Anatomy

Chairman, Professor H. E. Rawlinson

This year saw the official retirement of Professor Shaner as head of this department, but fortunately it has been possible to retain him on a special arrangement as part-time teacher in the Department of Anatomy. During the year, he has also served as an Associate of the National Heart Foundation, and continues his work in fundamental and basic contributions to the embryology of the heart. This department was particularly fortunate in having in its midst Dr. H. E. Rawlinson, who has assumed the chairmanship of the department. The contributions of the new chairman to undergraduate and graduate medical education, research and administration, not only in our University but in Canada as a whole, are too well known to require further elaboration here, and we in the Faculty feel particularly pleased and proud that such a distinguished scholar as Dr. Shaner should have such an able replacement available in his own department.

As previously mentioned, Dr. R. F. Shaner is continuing his fundamental observations on congenital abnormalities of the heart. Dr. H. E. Rawlinson has extended his observations on the mammary gland and mammary cancer in mice. Dr. J. S. Thompson has retained his interest in sex chromation, and Dr. Salt in the structure of skeletal muscle. Dr. M. R. Fish has developed further her interest in blood formation. Dr. M. W. Thompson has made numerous contributions to other departments and has continued her own research in the genetics of congenital pathological conditions. Dr. Harris, a first year member of the department, has been interested in pathological diseases of the heart.

Department of Bacteriology

Chairman, Professor R. D. Stuart

Of major significance in this department has been the geographical separation of the Division of Medical Bacteriology and the Division of Microbiology. The former carries out laboratory instruction and a limited amount of formal lecturing in the recent addition to the Provincial Laboratory

now reorganized to provide specific space for the Division of Medical Bacteriology. The Division of Microbiology has been placed under the direct supervision of Professor Myers in the Medical Building.

Some changes in the staff of this department during the past year were noted. Dr. I. E. Pearce resigned as Assistant Professor, and the department acquired two new sessional instructors, Miss Y. Goodman, B.Sc. and Dr. S. Hnatko.

The graduate training programme for the M.Sc. has continued to be a satisfactory one, with Dr. Stuart and Dr. Myers supervising graduate work for two candidates each in the past year.

Department of Biochemistry

Chairman, Professor H. B. Collier

Dr. D. J. Campbell, Biochemist of the University of Alberta Hospital, joined the staff of the department as a part-time Sessional Instructor in Clinical Biochemistry.

The department has two candidates for the Ph.D. degree and three prospective M.Sc. candidates. A large number of inquiries have come in this year from people interested in the graduate section of this department.

There were no major changes in the undergraduate teaching programme. Some modifications in the teaching programme may be anticipated when the space in the new building becomes available to the department. A tutorial in Biochemistry 300 for Biochemistry and Chemistry Majors of 1 hour per week has been tried this year, and seems to be a successful venture.

The Clinical Laboratory Service, which had provided special diagnostic investigations for doctors and hospitals in the province for many years, was discontinued at the end of June, 1959. The space was urgently needed for research purposes, and private diagnostic laboratories in Edmonton and Calgary had agreed to take over this work.

Department of Medicine

Chairman, Professor D. R. Wilson

During the past year, Dr. Inge Dyrenfurth has been appointed to the staff as an Assistant Professor of Experimental Medicine. She is a steroid-chemist and is the first full-time member of the department without medical qualifications. Dr. J. R. Hilliard has been appointed as a Sessional Instructor and has been appointed to the staff of the Department of Veterans' Affairs. Dr. B. J. Sproule has returned to the Department of Medicine geographically located in the University Hospital, and charged with the responsibility of developing the pulmonary section of the department.

There are six students enrolled in the Faculty of Graduate Studies. None of these students are proceeding to advanced degrees, but all of them are working towards Certification or Fellowship in the Royal College of Physicians and Surgeons of Canada.

The new curriculum introduced last year for third year students has been maintained with only minor variations during the present year. The present fourth year represents the first group to partake in the new fourth year teaching programme. There have been few difficulties encountered in the operation of the new programme. The utilization of the out-patient department of the University Hospital has proven to be probably the most valuable

and most appreciated portion of the programme. In this respect, considerable credit is due to Dr. D. L. C. Judge, who is the first Teaching Fellow in the department.

The graduate teaching programme has continued to expand and is now in its second year. This programme consists of a variety of teaching sessions such as seminars, graduate lectures, small group ward teaching providing approximately seven to ten hours of graduate instruction per week in addition to the regularly constituted rounds within the department. Candidates for Certification and Fellowship examinations in the Royal College in their final year of preparation are subjected to written and oral examinations to determine their level of competence and to assess their fitness to proceed with further training.

We wish to express the gratitude of the Faculty to Mr. and Mrs. Arthur Craig for the generosity in providing funds to purchase a number of essential texts for the Division of Endocrinology and Metabolism.

Department of Obstetrics and Gynaecology

Chairman, Professor J. Ross Vant

This year has been a productive one in the Department of Obstetrics and Gynaecology. The department has acquired two full time members, Dr. T. R. Nelson, Associate Professor, geographic full time, and Dr. W. F. Ferguson, Assistant Professor, full time. Dr. E. G. Tess Trueman has joined the staff as Teaching Fellow in Obstetrics and Gynaecology. In addition, the department has three members of the Graduate Training programme, who are proceeding to Certification in the specialty.

There have been no significant changes in the undergraduate teaching programme, but the "living in" programmes at the Royal Alexandra, the Misericordia, and the General Hospitals, under the supervision of Dr. Ferguson, have been remarkably successful. With the additions to the full time staff, it has been found possible to increase the scope and intensity of the teaching conferences held with the Resident staff during the past year.

The Department of Paediatrics

Chairman, Professor J. K. Martin

Dr. Brenda Devlin was appointed to the staff of the hospital in May. Dr. Neil Duncan spent the first 3 months of the year working with Dr. R. Fraser and his group in the field of cardiovascular disease on a full-time basis. The industriousness of the resident staff—Doctors Watkins, Birkbeck, Gauk and Rivas, has been much appreciated and has contributed greatly to patient care. Dr. E. J. Turner, as full-time Teaching Fellow in Paediatrics, has helped considerably with the teaching, and is engaged on a research project. The staff as a whole have contributed to nurses' lectures at the student and graduate level. The Course in Premature Nursing Care has been repeated twice in collaboration with the Department of Obstetrics.

The Department of Physiology and Pharmacology

Chairman, Professor J. W. Pearce

The past year has seen a consolidation of previous expansion of graduate teaching and research activities in this department, with some extension of undergraduate teaching. The most noteworthy change in the latter has been the provision of a full year of laboratory exercises in Physiology 361, with the

weekly period being given in two sections. Dr. W. H. Cottle has been largely responsible for the re-organization involved, which included expanding and re-writing the manual. There has been a noticeable improvement in the student response to the laboratory course. The single lecture programme, given this year to all students of elementary Physiology including those of the School of Physiotherapy, has been contributed to by all staff members in Physiology.

An advanced laboratory course on the graduate level has been offered for the first time, organized by Dr. C. Heath. Two other didactic graduate courses have been given as well as a departmental seminar, and some students are being supervised in Physiology 502 or Pharmacology 501 projects. The department now provides 10 graduate courses and is accredited to offer training for the Ph.D. degree. There are five graduate students in the department proceeding to the M.Sc. degree and two students graduated last fall.

All members of the department are actively engaged in one or more research projects. The coming year should see the fruition of a number of interesting studies which have been diligently attacked.

During the past year Dr. E. O. Hohn has been on sabbatical leave at the Worcester Foundation of Clark University undertaking study and research in the field of steroid biochemistry. The very real assistance of all the part-time academic staff is again gratefully acknowledged, with special appreciation to Dr. Merva K. Cottle, who has played an enthusiastic role in both graduate and undergraduate teaching as well as adding a neurophysiological facet to our research activities. The part-time staff has been increased by the addition of Mrs. C. Fuller, Mrs. C. Campbell, and Mrs. Joan Morrison. Two Teaching Fellows, Mr. J. V. Milligan and Miss Celia Yates, have been appointed during the past year.

The Department of Social and Preventive Medicine

Chairman, Professor S. Greenhill

The past year in this department has been devoted to re-organization and planning. This department's teaching programme is aimed at making the student aware of the interaction of preventive and curative medicine, and of the necessity for understanding the social, emotional, and economic factors underlying illness. It carries out this aim by providing medical undergraduates with experience in observing and managing the many factors, in addition to actual disease, which contribute to a patient's illness, and by providing the opportunity for the student to participate in research projects dealing with the broader aspects of health and disease.

In addition to a basic course in Public Health practice, students have been exposed to other topics in the broad field of social and preventive medicine—e.g. the changing pattern of disease, population trends and expansion, epidemiology of non-infectious disease, community health resources, occupational health, trends in morbidity, medical care programmes, and the like.

It is hoped that a family care or study programme may be implemented during the next academic year. This programme will introduce 3rd and 4th year students to the practice of comprehensive medicine. A team, made up of a 3rd and 4th year student, will be the "medical adviser" to a family or patient. During a two year period, a student will not only be exposed to episodic illness, but will become aware of the variety of factors that affect both health and disease.

Seminars will be held at regular intervals. Four to six students with representatives from appropriate agencies or departments will be in attendance. Topics for discussion will arise out of the problems met with by the students. During the two-year exposure, such seminars will cover a diverse range of topics related to the health and welfare of the individual or family. As a result of this type of program, the student will obtain practical experience and expert guidance in the complexity and problems of medical practice. Preparations for the implementation of such a programme have been carried on during the year.

Alternative programmes, which would operate on similar lines, involving the Student Medical Services, or the Department of Veterans' Affairs, have been considered.

Also in the planning stage is a long-term medical, social, anthropological and economic research study of the Metis, involving as well as this department, the departments of Sociology, Education, and possibly Economics. Geographically, the areas under study will tie in with some of the rural health units. Three or four medical students will be used as field workers during the summer vacation, along with students from the Departments of Sociology and Education.

A statistical analysis of the incidence of illness, accidents and absenteeism of employees in relationship to family size has been completed at one of the industrial plants. This study was carried out by the plant nurse in co-operation with this department and the Department of Sociology, and with the aid of the University computer and data processing equipment. This department has also served in an advisory capacity to the Department of National Defence regarding the incidence of job-turnovers.

The Department of Psychiatry

Chairman, Professor K. A. Yonge

After the rapid expansion of this department during the previous year, this has been one rather of consolidation. Yet there has been one important area of expansion—in Child Psychiatry.

Doctor Harold Barker, as a specialist in Child Psychiatry, has joined this department during the year and has been largely responsible for the establishment in the University Hospital of the Unit for Emotionally Disturbed Children. Dr. Herbert Pascoe also joined the staff during the year and has taken a prominent part in teaching as a clinical instructor. Dr. Julius Guild has been promoted to the position of Assistant Clinical Professor. Dr. E. M. Jellinek, renowned for his work on alcoholism, has been appointed as Honorary Clinical Professor.

The undergraduate teaching programme has been consolidated by the detailed outlining of the whole of the new curriculum. The objective of compiling a compendium of the summaries of all lectures will probably be reached by next year. The students seem to have profited a great deal from their early contact directly with patients during the second year. The four weeks of clinical clerkship for the fourth year students have proved very acceptable and appear to be most beneficial.

The first candidates to complete the full course in the post graduate training programme will be ready to sit for their certification examinations this fall. There has been a consolidation of the seminar program for basic instruction in the specialty.

To further the development of research activity in the department, Dr. M. B. Moore was appointed Research Fellow. His major undertaking, along with Dr. Yonge, has been the development of a coding system which would be used throughout all the psychiatric services of the Province to facilitate epidemiological and other research surveys. Dr. Yonge and Dr. Moore also carried out an epidemiological study on the incidence of sickness in relation to morale in an R.C.A.F. Dept and outlined an evaluation of a new Phenothiazine derivative. Other research included clinical trials of new drugs.

The Department of Radiology

Chairman, Professor H. E. Duggan

The new facilities for the Department of Radiology are nearing completion in the service wing of the University Hospital, and it is expected that the department will be able to move in some time in the near future. A considerable amount of apparatus such as laminography, special neuroradiological equipment, special explosion proof portable x-ray apparatus has been installed.

There have been no major changes in teaching methods to graduate medical students. The teaching to undergraduate medical students has been altered. Normal radiographical anatomy is now given to second year medicine. In fourth year medicine one to two students spend a complete week in the Department of Radiology at the University Hospital, or in one of the other city hospital departments. A day is spent in the Radioisotope Laboratory at the University Hospital.

Dr. H. K. W. Pribram joined the Department of Radiology, University Hospital, on September 1, 1959. He is particularly interested in neuroradiology. Since his arrival, the number of complicated neuroradiological procedures done has increased considerably. This should aid us greatly in the diagnosis of neurological conditions.

The Department of Surgery

Chairman, Professor Walter C. MacKenzie

The members of the Department of Surgery have continued to participate actively in the teaching of undergraduate and graduate students in general surgery and the surgical specialties. Many of the members of the department have been actively following up their interest in the varied aspects of research in basic and clinical fields. The basic science departments and the other clinical departments have been offering their usual full co-operation in the over-all teaching and research programme.

In the Division of Orthopaedic Surgery, under the direction of Doctor O. Rostrup, a research paralytic hand unit was started in the fall of 1959 under the immediate direction of Dr. Gordon Wilson, a members of the Orthopaedic staff. Doctor Wilson attended a course on "Upper Arm Splinting" at the University of Southern California and is well qualified for the direction of this unit. The members of this unit meet once a week with a review of all pertinent cases, and they are presently studying polio cases and quadriplegics, and hope to add other hand deformities in due time.

In the Neurosurgical Division, Doctor Speakman particularly has given impetus to surgery of the basal gaglion for Parkinsonism, and an exhibit and movie prepared by Doctor Speakman have had wide distribution in Canada.

Doctors Callaghan and Couves in the Division of Cardiovascular Surgery have continued their interest in large vessel replacement, infant heart research,

and artificial heartvalves, and Doctor Couves has been interested particularly in the isolation and perfusion techniques, as well as venous thrombosis.

The Adjuvant Chemotherapy Program, in which the Department of Surgery has participated with the National Institutes of Health, has continued, and all carcinomas of the lung and stomach are included in this prolonged study.

In the Division of Urology, Doctor Chari of the University of Hyderabad, has been the first Colombo Plan Fellow and his presence in the Department has been stimulating and completely satisfactory. The artificial kidney unit has been continued as an experimental project in the McEachern Laboratory and available to the cases which arise within the hospital.

The Cleft Palate Rehabilitation Clinic has been directed by the members of the plastic and reconstructive group. This Clinic, will, over the years, make a very real contribution to the rehabilitation of those individuals who have been unfortunate enough to be born with this anomaly.

Doctor R. C. Harrison and his group in the Gastroenterological Division are pursuing studies with respect to the acidity and method of controlling acidity in the patient with duodenal and gastric ulcer.

Doctor R. A. Macbeth has continued his studies on the biochemistry of human cancer, and has had an opportunity to present his findings at various meetings across the country in the last year.

Doctors R. A. Macbeth and H. T. G. Williams have been pursuing their interest in peripheral vascular disease with a weekly clinic held in the University Hospital and this has proved a valuable addition to our teaching program for undergraduate and graduate students.

Some changes in staff have been recorded this year. Dr. J. M. Lees was lost to this department through death on February 26th, 1960. His long and valuable service to the Department of Surgery is hereby recorded.

Dr. M. H. W. Friedman was appointed a Teaching Fellow in Surgery for the 1960-61 Session. Dr. J. D. M. Alton was appointed a lecturer in Surgery, and Doctors John R. Huckell and John L. Gulley were appointed Sessional Instructors in Orthopaedic Surgery.

The co-operation of Doctors W. S. Anderson and S. Kling in the Royal Alexandra Hospital, Dr. L. P. Mousseau and his colleagues in the General Hospital, and Dr. M. Weinlos and his staff at the Misericordia Hospital has been very satisfactory, both from the departmental and student standpoints.

Dr. R. J. Bury has continued to provide an excellent liaison between the Department of Surgery and the Department of Anatomy in First Year Medicine. In addition, various members of the Department of Surgery have contributed in a minor way to the technical instruction in the first year Physiology programme.

There are eight graduate trainees in the Department of Surgery in General Surgery, and two in Orthopaedic Surgery. All of these trainees plan to take the Certification and/or the Fellowship examinations of the Royal College of Physicians and Surgeons of Canada.

APPENDIX C:
RESEARCH INVESTIGATIONS IN THE FACULTY

The Department of Bacteriology

Effects of organic mater (cotton fibre) and nylon on antibacterial activity of benzlkonium chloride. G. E. Myers and Carol Lefebvre.

Antibacterial effect of zinc oxide (superfine). G. E. Myers and Robert Mackenzie.

Residual Antibacterial action of iodophon and iodine. G. E. Myers and Rose Radomski.

Survial of bacteria in fired oils and Alberta crude oils. G. E. Myers and Elaine Rankin.

Residual Antibacterial action of Hibitane. G. E. Myers and Carol Foxall.

Residual Antibacterial Action of Fixanol "C". G. E. Myers and Diana Pynch.

Casein Digesting Bacteria in Joint Cement used in Dry Wall Construction. G. E. Myers.

Bacterial Pluggin of Petrolifeurus Formations. G. E. Myers and Tibor Fekete.

Paraformaldehyde Resistant Starch Fermenting Bacteria in Gyp Starch Drilling Mud. G. E. Myers.

Investigation of Bacteria in Oil Field Injection Water used in Alberta. G. E. Myers and Bodhan Slabyj.

Opsonophagic index of patients with chronic Staphylococcus aureus infection. M. E. Williams.

Investigations in to the occurrence of human and animal leptospirosis in Alberta. R. D. Stuart and B. Weiss.

Atypical acid-fast bacilli—A clinical Bacteriological study. V. N. Sawchuk.

Study of Immunological properties of human strains of Pasteurella multocida. Y. Goodman.

Keratinophilic molds from Alberta soils. W. J. Carmichael.

Survival of frozen cultures. W. J. Carmichael.

Taconomy of Scopulariopsis. E. Salter.

The Department of Biochemistry

Analysis of pigments of alfalfa flowers. J. R. Flyer (Prof. Emertius)

The establishment of a chemical quantitative method for the determination of urinary estrogens and its application to a clinical study. L. E. McLeod and E. J. Chesney.

A study of methods for the determination of uric acid. D. J. Campbell and E. I. Tomm.

Factors controlling the cation permeability of the erythrocyte. H. B. Collier, with assistants C. C. Tsen, H. A. Lozeron, R. W. Bide and A. Stein.

Physico-chemical studies on normal and dystrophic muscle protein. G. M. Kay.

Physico-chemical studies of muscle protein and on the fibrinogenfibrin conversion. C. M. Kay.

Measurements of the helix content an dstability of proteolytic fragments of *Pinna nobilis* tropomyosin. C. M. Kay and L. B. Smillie, with assistans F. Hilderman, L. Neufeld.

Ultraviolet absorption and optical dispersion studies as related to the structure of proteins. L. B. Smillie, with assistants S. Schymizek, E. Dietz.

Examination of the fatty acid composition of brain, blood, and intestinal phospholipids under various metabolic conditions. E. T. Pritchard.

Comparison of structure and activity of phospholipids from normal and tumor-bearing rats. E. T. Pritchard.

Relationship of vitamin E and Vitamin B to blood and brain lipids. E. T. Pritchard.

Effects of vitamin E deficiency on the distribution and activity of lipids in mammalian tissue. E. T. Pritchard.

Metabolism of lipids in brain. E. T. Pritchard.

E. T. Pritchard, Assistants: H. Singh, P. F. Cantin, E. T. Cohen, L. Nykiforuk, T. A. Tribe, A. Nett, T. Pomachac, W. Bolt, W. Paranchych.

Ethylene metabolism in tomato fruit and respiration studies on *P. digitatum*. Mary S. Spencer, with Assistants, M. Gibson, G. Ram chandra, T. A. Tribe.

Serum and intestinal enzymes of the rat. J. Tuba with G. Neufeld.

Mammary tissue respiratory enzymes in rats and in mice of tumor-susceptible and tumor-resistant strains, and energy utilization in transfer of digestion products across the gut wall. J. Tuba with assistants E. Triantas, L. Harker.

The Department of Medicine

Studies in Diurnal Variation: Estrogen Excretion in Normals; 17-Ketosteroid Excretion in Adrenogenital Syndrome. L. E. McLeod.

Influence of Hypophysectomy on the Renal Lesions of diabetes mellitus. L. E. McLeod.

Studies concerning hydrocortison metabolism: (a) Protein-binding of hydrocortison in normal subject. (b) the influence of estrogen on hydrocortison metabolism. L. E. McLeod.

Measurement of thyroid function in goitre in myxedematous and euthyroid subjects. L. E. McLeod.

Research of muscular dystrophy and allied muscular diseases. G. Monkton.

Investigation of pre-diabetes among women producing large babies. J. A. L. Gilbert.

Incidence of coronary thrombosis having undergone partial gastrectomy for peptic ulcer. J. A. L. Gilbert.

Electroencephalographic studies in patients with congenital heart disease. R. S. Fraser.

Adrenal cortical function in patients submitted to operation using cardiopulmonary by-pass. R. S. Fraser.

Clinical and hemodynamic changes in patients with congenital heart disease, studies six months after operation. R. S. Fraser and R. E. Rossall.

The incidence of various congenital cardiac abnormalities in patients studied at the University of Alberta Hospital 1954-60 with comments on clinical features, course and treatment. R. S. Fraser and R. E. Rossall.

Investigation of the low potential electrocardiogram in Myxedema and Tissue electrolyte studies of cardiac muscle. R. S. Fraser, J. Dvorkin, and D. M. Bell.

Clinical research from case material, cardiac unit. (1) Arrhythmias induced by cardiac catheterization. R. S. Fraser and R. E. Rossall. (2) Left persistent superior vena cava. Study of 26 patients. R. S. Fraser and R. E. Rossall. (3) Ruptured sinus of valsalva aneurysm. Clinical features. R. S. Fraser and R. S. Rossall. (4) QT interval and T wave after induced ventricular premature beats. R. S. Fraser and R. E. Rossall.

Coronary Anastomosis. J. D. Woods.

Study of regional differences in vascular changes in the lungs of patients with mitral stenosis and congenital heart disease, together with control studies. R. E. Rossall.

Pathologic and Radiologic study of pulmonary lymphatics. R. E. Rossall.

The Department of Obstetrics and Gynaecology

The Alberta Perinatal Mortality Study. Obstetrics and Paediatrics in association.

Statistical survey of caesarian sections in the University Hospital. T. R. Nelson.

Pelvic phlebography—particularly in its relation to pelvic pain and menstrual abnormalities. T. R. Nelson.

Construction of apparatus to estimate blood pressure in the newborn. T. R. Nelson.

Foetal Giantism. W. F. Ferguson.

A study of the perinatal motality in multiple pregnancies in the Province of Alberta. W. F. Ferguson.

Obstetrical anaesthesia in a large General Hospital. W. F. Ferguson.

A comparative study of out patients and private obstetrical admissions at the University Hospital. W. F. Ferguson and J. Bugis.

A five year survey of hemolytic disease in newborns. J. Bugis in association with W. C. Taylor, Department of Paediatrics.

A five year review of perinatal deaths in the University Hospital. M. M. Hutton.

A Ten Year review of primary ovarian carcinoma in the University Hospital. M. M. Hutton.

Establishment of a profile of normal cornification levels of the vagina in menopausal and post menopausal women, with reference to the value of this method in assessing method of palliation in metastatic breast cancer. L. B. Brown.

Clinical investigation in the use of "Metaspas" in dysmenorrhea. M. M. Hutton.

A clinical investigation of the effect on the physiology of labor of prenatal education. W. D. Frew and J. R. Vant.

The preparation of teaching colored films of both normal and abnormal labor. W. D. Frew.

Perinatal mortality in very young and elderly primigravidae. J. R. Vant.

The Department of Paediatrics

Study of dermal patterns and teeth enamel defects in spastic diplegia. J. K. Martin, with M. Thompson and C. R. Castaldi.

Study of the incidence of chronic diseases in children and the services available for treatment. J. K. Martin with K. A. Cseuz.

Controlled study in the use of digoxin in prevention of the respiratory distress syndrome. J. K. Martin.

An assessment of edlugate magnesium solution as an anticoagulant in exchange transfusion. W. C. Taylor with D. W. Wilkinson and C. W. Nash.

Detection of Foetal Erythrocytes. W. C. Taylor with G. Kullman.

A study of electrocardiographs and electrolyte changes during exchange transfusions in human infants. W. C. Taylor.

Experimental production of cardiac arrhythmia in rabbits during exchange transfusions. W. C. Taylor.

A 5-year survey of stillbirths and neonatal deaths from haemolytic disease of the new-born in Alberta. W. C. Taylor.

Observations on premature infants in respiratory distress. W. C. Taylor.

A comparison of retraction scores and respiratory rates as a means of assessing respiratory distress in new-born infants. W. C. Taylor.

An examination of liquor amnii to develop new methods for the detection of intra-uterine haemolytic disease. (With Dr. A. G. Stewart). W. C. Taylor.

Fibrinolytic activity in the tissues of the new-born. A. G. Stewart with E. J. Turner.

Bilirubin glucuronyl transferase activity in the liver. A. G. Stewart.

Enzymes in the blood of infants. A. G. Stewart with J. A. Birkbeck.

The Department of Physiology and Pharmacology

The study of the dynamic response characteristics of mechanoreceptors, with particular reference to mammalian cardiac mechanoreceptors. K. M. Chapman.

Mechanisms of thermal responses of cold acclimated animals. Thermal response and cold tolerance of young caribou calves. W. H. Cottle.

The action of reserpine upon the respiration of isolated, unstimulated and also of electrically stimulated aorta. G. N. Gillis.

Pulmonary edema following vagotomy and breathing high CO_2 levels. C. Heath.

Effects of blood CO_2 level on the responses of vascular smooth muscle to noradrenaline. C. Heath and C. W. Nash.

The role of progesterone of adrenal origin in mammary gland development in various laboratory mammals treated with an oestrogen and when treated with an oestrogen and amphenone. E. O. Hohn.

Studies of the thymus. E. O. Hohn.

Relationship of failure of prolactin production to avian brood parasitism. E. O. Hohn.

A study of anuria and shunting of renal blood flow. C. W. Nash.

Study of reflex pathways arising in the pulmonary circulation, including the left atrium of the heart and related to the regulation of blood volume. J. W. Pearce with M. K. Cottle, R. S. Smith and H. Sonnenberg.

Studies of syncope occurring during pressure breathing. J. W. Pearce, and W. H. Cottle.

Study of vagal afferents in the monkey. J. W. Pearce and K. M. Chapman.

Studies on the inhibition by tosylarginine methylester and AFIF of the polymerization of the fibrin monomer by thrombin. D. C. Triantaphyllopoulos.

Studies on avian blood coagulation. D. C. Triantaphyllopoulos, with C. D. Bigland.

(a) In vivo studies on the anticoagulant properties in incubated fibrinogen.

(b) Further studies on the antiheparin activity of serum pseudoglobulins. D. C. Triantaphyllopoulos.

Delta-laevulinic acid and porphobilinogen in the urine of patients with multiple sclerosis. J. D. Taylor.

Drug induced porphyria. J. D. Taylor and C. W. Nash.

The Department of Psychiatry

Histological study of spermatogenesis in mongols: Pharmacological and clinical studies on the following new drug compounds: Librium, Mellaril, and Nialamide. L. J. Le Vann.

The Incidence of sickness in relation to morale in an R.C.A.F. unit. M. B. Moore, and K. A. Yonge.

The coding of psychiatric data for electronic retrieval. M. B. Moore and K. A. Yonge.

Evaluation of a new Phenothiazine derivative. M. B. Moore and K. A. Yonge.

Psychosomatic factors in pre-appendectomy patients. H. Pascoe.

Hypoanalysis with character disturbances. Z. Selinger.

Carbon Dioxide narcosis with aggressive impulsive personalities. Z. Selinger.

The Department of Radiology

Radioactive phosphorus in the treatment of port wine stains. Total body radiation, radiation to blood and gonads from radioactive iodine. H. E. Duggan, A. B. Scott, and D. Weijer.

Total body radiation and radiation to blood from radioactive phosphorus. H. E. Duggan, A. B. Scott, and D. Weijer.

The Department of Surgery

Studies on the biochemistry of human neoplasia. R. A. Macbeth, E. Triantus.

A control study of the use of Alpha Tocopherol in intermittent claudication. R. A. Macbeth and H. T. G. Williams.

A study into the cardiac effects of irreversible shock. C. M. Couves.

The treatment of bacteremic shock by extracorporeal circulation and blood irradiation. C. M. Couves.

A study of isolation and perfusion techniques for malignancy. C. M. Couves.

Adjuvant chemotherapy in malignancy. C. M. Couves and associates.

The effects of varying venous flows on experimental venous thrombosis. The effects of anticoagulation on experimental venous thrombosis. The natural course of experimentally produced venous thrombosis. C. M. Couves and associates.

Gastric and duodenal pH studies in normal patients with duodenal and gastric ulcer, and postoperative patients. R. C. Harrison and R. Morrison.

- Control of gastric secretion by isotopes. R. C. Harrison and R. Morrison.
- The influence of vagal innervation on antral function. R. C. Harrison and O. Retzer.
- Excision of acid secreting mucosa and replacement by skinrafting. R. C. Harrison, B. Greenhill, and G. Francis.
- A study of cardiovascular and respiratory distress in the newborn. J. C. Callaghan and D. Cardozo.
- Studies on a membrane oxygenator. J. C. Callaghan and D. Cardozo.
- A study of heart valve action. J. C. Callaghan and D. Cardozo.
- A study of the conduction mechanism in a human heart. J. C. Callaghan, D. Cardozo, and R. F. Shaner.
- Venoarterial and arterial assisted circulation in animal experiments. J. C. Callaghan and associates.
- Development of small volume ventricle type pump. J. C. Callaghan and D. Cardozo.
- A study of electronically driven pump under the control of the electrocardiogram for resuscitation of acute coronary occlusion. J. C. Callaghan and associates.
- A study of pre-pulmonary bypass. J. C. Callaghan and associates.
- Variation in serum amylase and amylase excretion associated with pancreatic cooling. W. C. MacKenzie, O. Retzer, and K. B. Wiancko.
- Gastric blood flow in histamine treated dogs. K. Kowalewski, B. Michalyszyn, and G. L. Wilcox.
- The effect of cytotoxic drugs on wound healing in rats. B. D. Margolus.
- Experimental production of gastric cancer in dogs. W. A. Maclean.
- Further studies in the use of Teflon in joints and particularly with reference to reconstruction of the anterior cruciate ligament. O. Rostrup and M. Emery.
- Experimental study in the use of Ostomer in fractures in dogs. O. Rostrup and M. Emery.
- Clinical review of ligamentous injuries about the knee at the University Hospital from 1959-1958. O. Rostrup.
- Experimental production of carcinoma of the cecum in rats by methylcholanthrene with and without antibiotic production. W. A. Strutz, C. M. Couves, B. J. G. Greenhill, G. J. Francis, and A. E. Theman.
- Blood gases of visceral vessels in dogs treated with histamine. G. J. Francis, E. C. Elliot and K. Kowalewski.
- Effect of calcium on gastric enzymatic function in dogs. J. Siegenburg and K. Kowalewski.
- Strength of callus in healing fractured humerus of rats under various hormonal treatment. K. Kowalewski and K. B. Wiancko.
- Effect of estrogen on the lipid metabolism in cockerels. K. Kowalewski.
- Changes in blood, muscle and bone electrolytes in rats with gastric fistula. W. Pawluck, B. J. G. Greenhill, and K. Kowalewski.
- The long-term results of modified plombé thoracoplasty in the treatment of pulmonary tuberculosis. H. Meltzer and R. B. Lyshak.
- A survey of carcinoma of the bladder in Alberta from 1953 to 1958 inclusive. R. R. Francis.

The production of experimental pancreatitis. H. T. G. Willians.

The evaluation of changes in serum enzyme levels in acute abdominal conditions. H. T. G. Willians.

Radial head prosthesis in the management of radial head fracture. O. Rostrup.

At study of the direct affect of respiratory alkalosis in cerebral circulation of dogs. C. S. Dafoe, C. A. Ross and C. Heath.

Therapy of hepatic cirrhosis by means of combined partial hepatectomy and hepatic arterialization. J. Siegenberg.

Skin-grafted isolated ileal loop as a non-absorbing urinary reservoir. J. Siegenberg.

Investigation of irreversible shock produced by haemorrhage. C. M. Couves and J. Siegenberg.

Controlled cardiac output. E. C. Elliot.

Catheter-venoset utilizing half-needle guide. E. Elliot.

Report of Professor Ruth E. McClure, Director of the School of Nursing

I have the honour of presenting the report of the School of Nursing for the year 1959-60.

The total enrolment of the School, as of this date, is 191.

Basic Degree Programme

First Year	36
Second Year	26
Third Year	24
Fourth Year	24
Fifth Year	22

Post-Basic Degree

Full-time	5
Part-time	14

Diploma in Public Health Nursing	10
Diploma in Teaching and Supervision	19
Certificate in Advanced Practical Obstetrics	11

Total Enrolment

Full-time	177
Part-time	14
	191

One noticeable change this year is the increased enrolment in the Teaching and Supervision program. This is most encouraging and denotes interest on the part of hospital schools of nursing for better prepared teachers.

The curriculum of the School of Nursing is being carefully studied by members of the staff. This study entails detailed investigation and careful planning for future improvements. It was found necessary to "discontinue the affiliation with the Calgary General Hospital until academic entrance requirements are adopted by that school".* This change became effective during the year 1959-60 but does not affect the degree students presently enroled in the Calgary General Hospital.

Two more short courses on the "Care of Premature Infants" were conducted by the School of Nursing in cooperation with the University of Alberta Hospital and the Department of Extension. Nineteen graduate nurses from various

*See General Faculty Council Meeting, January 1960.

hospitals in Alberta have been successful in completing this course of studies. This project has been financed through a Maternal and Child Grant from the Department of Public Health.

In March, workshops on Medical Nursing were held in Edmonton and Calgary. A total of 96 graduate nurses attended. Dr. Elizabeth Giblin, Associate Professor, School of Nursing, University of Washington, was brought here to conduct these three day workshops. We are indebted to the Provincial Department of Public Health for providing financial assistance for this project.

Members of the staff of the School of Nursing have given assistance to the following agencies and have participated in their programmes of education:

- Indian Health Services
- Alberta Association of Registered Nurses
- Alberta Civil Defence
- Provincial Department of Public Health
- Alberta Red Cross Association
- School for Nursing Aides
- Council of Community Services
- University of Alberta Hospital
- Royal Alexandra Hospital

In cooperation with the Adviser to Schools of Nursing, a two day institute was organized for Hospital Health Service nurses from Schools of Nursing in Alberta.

Members of the staff continue to take an active part in professional associations. The School has been represented at meetings of the Canadian Public Health Association (Alberta), the Canadian Conference of University Schools of Nursing, the Canadian Nurses' Association and the Alberta Association of Registered Nurses.

Miss McClure attended a workshop on Curriculum Construction in Ottawa which was organized on a national basis by the Canadian Nurses' Association. Miss McMillan attended a course on Civil Defence in Arnprior, sponsored by the Department of National Health and Welfare.

This past year has been encouraging because of the increased enrolment and the improvement in performance of the students. I wish to acknowledge the contributions made to the teaching programme of the School by members of the Faculties of Medicine, Dentistry, Arts and Science, Education and members of the University of Alberta Hospital medical and nursing staff. We are most appreciative of the continued assistance and cooperation received from hospitals, health agencies and the Department of Public Health.

Report of Miss M. E. Schumacher, B.S., M.A., R.N., Adviser to Schools of Nursing

It is again my privilege to present the report of the Adviser to Schools of Nursing in Alberta for the year 1959.

A. During the year the following visits were made:

1. For purposes of evaluation and progress—	
(a) to schools of nursing	10
(b) to affiliating agencies	1
	—
TOTAL	11
2. For other reasons	7
	—
TOTAL	18

B. Other activities and projects:

1. The revision of the Rules and Regulations Governing Schools of Nursing for the Province of Alberta was completed and is to become effective in July 1960.
2. With the assistance of the University School of Nursing a two-day workshop for Health Nurses in Schools of Nursing was held in September, 1959.
3. Participated on one radio and one television program for the Nurse-Recruitment program.
4. An observation tour, May 18-21, in Ontario with Miss Dorothy Riddell, Inspector for Schools of Nursing in that province.
5. An address at the capping service of the preclinical students of the University of Alberta Hospital School of Nursing.
6. Participation in the graduation exercises of the Royal Alexandra Hospital School of Nursing and the Misericordia Hospital School of Nursing.
7. A presentation of the graduation address for the students at the Provincial Mental Hospital, Ponoka.
8. Talks were given to the following groups:
 - (a) Student organization of the University of Alberta Hospital School of Nursing.
 - (b) General staff of the University of Alberta Hospital.
 - (c) First year degree students in nursing at the University of Alberta.
 - (d) Southern Branch of the Sub-committee on Nursing Education of the Alberta Association of Registered Nurses.
9. Attended a meeting for Directors of Nursing from the Northern area on the Nursing Recruitment program.
10. Attended a one day workshop on Nursing Education sponsored by the Alberta Association of Registered Nurses Nursing Education Committee.
11. Attended a conference called by the University for Directors of Schools of Nursing and Hospital Administrators.
12. Attended two conferences for Directors of Schools of Nursing.
13. Attended the National League for Nursing Convention held in Philadelphia, May 11-15.
14. Attended four meetings of the Board of the Central Volunteer Bureau.
15. Attended one meeting of the Nursing Education Committee of the Alberta Association of Registered Nurses and several meetings of task committees.
16. Attended a Curriculum Workshop sponsored by the Canadian Nurses' Association held in Ottawa, November 23-25.
17. Attended one meeting of the Advisory Committee for Nursing Recruitment.

Report of Dr. J. R. Fowler, Director of the School of Physiotherapy

The Director of the School is pleased to present to the University the annual report for the year 1959.

In October 1959—twenty-two graduands received their diplomas at a special school convocation which was held in the Students' Union Building. The official University party consisted of the Director of the School; Dr. J. S. Thompson, Assistant to the Dean of Medicine; members of the school staff: Assistant Professor Rendell, Assistant Professor Gordon, Lecturer Mr. Faulds,

and Dr. A. C. McGugan, Superintendent of the University of Alberta Hospital—who gave the convocation address.

Assistant Professor Miss Gordon presented the Canadian Physiotherapy Association book prize to Miss Sharon Demaine in recognition of the highest class standing in her final year.

At present there are twenty students enrolled in second year, and thirty-one students writing their first year final examinations.

Through the organization and efforts of the students the school again put on an excellent display during Varsity Guest Week-end, for the information of the off-campus visitors. The demonstration included special techniques in the rehabilitation of certain disease entities, as well as film entitled "Condition Improved".

It is a pleasure to report that Mr. Faulds, Lecturer, was promoted to the rank of Assistant Professor.

The University has given official approval for the introduction of a new three year diploma programme in Physical and Occupational Therapy. This programme will begin in the fall of 1960. The title of the school has now been changed to "The School of Physical and Occupational Therapy". This new programme is being introduced to broaden the training of rehabilitation personnel not only in Physical Therapy but to include a new division in the School for the training of Occupational Therapists.

Report of Dean M. J. Huston of the Faculty of Pharmacy

Academic

Enrolment in the Faculty was the highest in its history with a total of 195 students. The proportion of women students continues to remain high. The enrolment by years with the number of women in brackets is as follows: first year 77 (31); second year 52 (30); third year 66 (22). Total 195 (83). Although the number of graduates has increased considerably in recent years the employment opportunities remain excellent with several positions available for each graduate.

A new award has been made available: the Frosst Scholarship of the value of \$250.00 for a student of outstanding merit entering the final year of the course.

Dr. J. R. Murray who had been a member of the Pharmacy Faculty for eleven years left to accept the position of Director of the School of Pharmacy at the University of Manitoba. Dr. Murray will be greatly missed and the good wishes of his colleagues go with him in this important and responsible position.

Dr. J. C. Morrison, a graduate of the University of Glasgow was appointed to staff as Assistant Professor.

Extension and Other Activities

The faculty conducted a refresher course in conjunction with the convention of the Alberta Pharmaceutical Association in Calgary in June. In addition, a series of refresher course lectures was presented at Edmonton, Red Deer, Calgary, Medicine Hat and Lethbridge during April, 1960. Papers were presented by Professor H. J. Fuller, of the University of Toronto, Mr. D. M. Cameron, Registrar of the Alberta Pharmaceutical Association, and by Dean M. J. Huston. Over 300 pharmacists attended this series.

Staff members during the course of the year answered many phoned and written requests for information on professional and scientific matters.

Twelve staff members and graduate students attended a meeting of the Western Association of Colleges of Pharmacy in Saskatoon in February. Several of the Faculty participated in the meetings of the Canadian Conference of Pharmaceutical Faculties in St. John, N.B. Dean Huston also attended meetings of the American Pharmaceutical Association in Cincinnati and the International Congress of Pharmaceutical Sciences in Zurich where he presented a paper.

Dr. Riedel was Chairman of the Canadian Conference of Pharmaceutical Faculties during 1958-59 and officiated at the annual meeting held in St. John, N.B., August 23rd-26th, 1959. In addition, at this meeting he presented a scientific paper to the Canadian Conference on Pharmaceutical Research. As Chairman of the Teachers' Conference of the Canadian Conference of Pharmaceutical Faculties he organized and conducted a one day seminar on "Graduate Programs in Pharmacy Colleges" attended by 30 participants from across Canada. He acted as an abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica*. He continued as Commanding Officer of the University Reserve Squadron and was appointed the Chief Ground Instructor at the Reserve Officers School held at College Militaire Royal at St. Jean, Quebec during May and June 1959 and again in 1960. During the year he presented two papers to professional groups and appeared on television once with reference to his military interests.

Dean Huston continued as Editor of the Scientific Section of the Canadian Pharmaceutical Journal and as a member of the Editorial Advisory Board. He was appointed a Director of the Canadian Foundation for the Advancement of Pharmacy. As Chairman of the Committee on Research and Graduate Studies of the Canadian Conference of Pharmaceutical Faculties he helped organize and conduct the Sixth Canadian Conference on Pharmaceutical Research at St. John, N.B. in August, 1959. During the year he presented 18 papers to professional societies, service clubs and similar groups.

Research

Four graduate students undertook work towards advanced degrees, two for Ph.D. and two for M.Sc. degrees.

The research activity of staff members was primarily as follows: Dr. B. E. Riedel, isotope studies of various hormones on zinc and chromium metabolism; Dr. K. H. Palmer, phytochemical investigation of a number of plants; Dr. M. J. Huston, effect of drugs on tissue respiration; Professor A. J. Anderson, an examination of Alberta bentonites; Dr. J. C. Morrison, tablet formulations.

Other problems being investigated included: effect of hydrogen peroxide and of oxygen on experimental hypertension; tissue distribution of Tolbutamide; an examination of mortars as a source of contamination; assay of tobaccos for arsenic and lead; measurement of iodine number by polarography; chemical re-evaluation of plant products used in folk medicine; a study of the stability of commercial emulsion systems; synthesis of phenothiazine tranquilizers with S³⁵; a survey of Alberta prescriptions; a study of pharmaceutical properties of zinc oxide hyperfine as a topical application using the radiosotope Zn⁶⁵.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

May 17th, 1960 marked the opening of the new Physical Education Building, a building which is perhaps the most modern and complete in all of Canada. There are nine areas of teaching stations in which separate classes may be

conducted, including a T-shaped swimming pool, an ice arena, two gymnasiums, a wrestling room, a dance studio, a gymnastics room, a corrective and remedial room, a golf driving room, a weight training room, a handball court, and a squash court. Sufficient room is also provided to allow for a *testing and research laboratory* which will give staff and graduate students their first real opportunity to undertake *technical projects* of a *research nature*.

Graduate Program. The University has approved of a Master of Science Degree in Physical Education. Registrations for this new degree program will be accepted beginning September, 1960.

Staff. Two new members were added to the staff of the School, both of whom were additions to the Calgary campus. The new members are Miss Mary Henderickson, and Miss Shirley Duquette.

The Bachelor of Physical Education Program. The degree program in physical education continues to grow in enrolment with a 1959-60 registration of thirty-six first year students. The total registration of all three years was seventy-seven.

The Bachelor of Education Program. All students in the Faculty of Education are required to take at least one course in physical education and some are required to take a course in health education. The distribution of students by course enrolment follows:

Physical Education 201	659
Physical Education 203	301
Physical Education 243	2
Physical Education 206	1
Physical Education 295	97
Physical Education 324	36
Physical Education 392	31
Physical Education 442	6
Education 280S	61

The Service Program. All first-year students at the University are required to register in physical education. The program for these students consists largely of recreational and fitness activities. Enrolments for these classes follows:

Men	699
Women	241

The Intramural Sports Program. It is the policy of the School of Physical Education and the University Athletic Board to co-operatively provide the students with as many physical recreation opportunities as time and space will allow. The new building and new proposed playing fields should provide the greatest increase in participation in the history of the University. The 1959-60 statistics follows:

Men	1958-59	1959-60
Number of Sports	11	7
Number of Teams	173	152
Number of Games Played	980	816
Number of Participants	2,580	2,320
Women		
Number of Sports	10	9
Number of Teams	77	70
Number of Games Played	255	260
Number of Participants	829	784

The Intercollegiate Athletic Program. The 1959-60 session marked the return of football to the campus, and while there was considerable initial expense, the

University Athletic Board were happy to report ticket sales amounting to \$8,700.00. Members of the Physical Education Staff supervise or coach the following teams and clubs:

Volleyball	Cross Country	Figure Skating
Swimming	Fencing	Basketball
Golf	Football	Curling
Tennis	Hockey	Wrestling
Skiing	Badminton	

Western Intercollegiate Championships which were won over the past year included:

Men

W. G. Hardy Trophy—Hockey
W.C.I.A.U. Volleyball—Volleyball
P. S. Warren Trophy—Cross Country

Women

Sam Landa Trophy—Volleyball

Extension Activities. The nature of the work in the field of physical education makes extension activities both necessary and inevitable. Over the past year, members of the staff have been directly connected with the following organizations:

Boy Scouts Association
Y.M.C.A. and Y.W.C.A.
Provincial Planning Association
Provincial Red Cross
Provincial "Don't Drown" Committee
St. John Ambulance
Alberta Schools Athletic Association
Provincial Track and Field Association
Amateur Athletic Association of Canada
Alberta Community Recreation Bureau

Members of the staff have lectured and demonstrated in sports clinics in various parts of the Province. The clinics included football, swimming, track and field, hockey, basketball, and elementary school activities.

The coaching staff has been much in demand for public addresses, radio talks and illustrated lectures.

Awards. Student awards which merit recognition are:

Provincial Government Recreation Scholarship—Patricia Jackson
The Edmonton Branch (Women) of CAHPER Book Prize—Judith Kutt
The Edmonton Branch (Men) of CAHPER Bursary—William Lorenzen and Ernest Soroohan
Physical Education Students' Society Medal—George Kingston

Report of Dr. A. L. Doucette, Director, University of Alberta in Calgary

1. General introductory items

(a) Student Enrolment:

The enrolment of daytime and partial students rose to some 820 students and plans are being made for 1,000 students on the new campus. From all reports that I hear from high school administrators it would appear that we shall be meeting the projected enrolment for 1960-61.

(b) Grounds and Premises:

We have continued to occupy the North Hill campus in Calgary with the Institute of Technology and Art. Plans are to start the Library move in July of 1960 and registration of students should take place on the new northwest campus in September, 1960.

(c) *Closing Exercises:*

Following the decision of the Board of Governors, the Closing Exercises have now come to an end and will be replaced with a fall Convocation in October, 1960 with the meeting of the Senate held the day before.

(d) *Open House:*

With the opening of the new premises an Open House should be scheduled on the northwest campus in 1960-61.

(e) *Radio Talks:*

A large number of staff and students gave of their time to radio broadcasts in connection with Brotherhood Week, Canadian Education Week. Students also took part in programmes on CFAC, CKXL, and CHCT-TV.

(f) *Teachers' Conventions:*

As heretofore the staff of the Faculty of Education assisted generously at Institutes throughout the Province.

(g) *Career Days:*

Miss McWilliam is covering this item under a separate report.

(h) *Western Canada Conference on Teacher Education:*

It is expected that two delegates will attend this Conference, one under the Faculty of Education budget, and one paid out of the Staff Travel Fund of the University.

(i) *World University Service:*

The Treasure Van was on campus in October, 1959 and attempts are being made to have the Treasure Van set up in the Education Building auditorium in the Institute's premises in October, 1960.

2. *Special Reports*

(a) *Faculty of Arts and Science:*

Dr. E. F. Guy has supervised the various divisions of Arts and Science in a very efficient manner. I am satisfied that all of his Departments have been working loyally and rendering a service of which the University may well be proud.

It is a decided help to have an Assistant to the Director who pays such careful attention to all the detail which comes his way.

I should like to mention the fact that, with the help of the Physics Department in Edmonton, and the Canada Council in Ottawa, the University of Alberta in Calgary may boast of an electron microscope which will be housed in the new Physics Building. This equipment will be a most decided boon in research in the Physics field.

Cosmic radiation studies at the graduate and staff level in the Physics Department have continued throughout the year—in Calgary, on Sulphur Mountain, and also in an underground tunnel area in the Calgary vicinity.

Mr. Peter J. Smith completed a very thorough socio-geographical study of population trends in the city of Calgary and this publication might well be bound by the print shop with copies made available to students through the Libraries in Edmonton and Calgary.

Mr. A. R. Prince is continuing his research study with mosses and lichens of Alberta.

Mr. F. R. Anton carried on summer work during 1959 for the Department of Labour in Ottawa and has continued with this work in this field during the past session.

Professor Alban Winspear rendered valuable public service in the Calgary community by reporting to several organizations on his trip to Greece where he carried on investigation studies in the area of early Grecian history.

Mr. A. S. B. Holland will be continuing his graduate study in Missoula, Montana during the summer of 1960. His health has returned to complete normalcy but he found it necessary to limit his activities to daytime instruction, and we have received some extremely favourable reports about his teaching ability. For health reasons he was not able to carry on any advanced study during the winter months.

Dr. M. H. Scargill has been continuing his Canadian Dictionary study which will be an on-coming affair for some time yet.

Dr. G. M. Self was engaged in history research and study at Queen's University during the summer of 1959.

(b) Faculty of Education:

The Faculty of Education in Calgary experienced a sudden increase in the numbers entering the Bachelor of Education programme, Secondary Route and also in the Elementary Route. Those entering the Secondary Route were 84 as compared with 53 in 1958-59. Those in the Elementary Route increased by 7 students to 29. The numbers in the Junior Elementary programme remained approximately the same as the year before at 165. There were 11 students registered in the Bachelor of Education in Industrial Arts programme as compared with 13 the year before. Twenty-one students attended the Faculty of Education, Calgary to work towards a Bachelor of Education degree after another undergraduate degree. The total enrolment at Calgary came to 434 students.

Three new staff members were appointed during the 1959-60 year: Dr. James Stewart in Educational Psychology, Mr. R. N. Anderson in Foundations of Education, and Miss Mary Beaton in Methods of Mathematics teaching.

Dr. J. D. Aikenhead is continuing his research on teacher personnel. Mr. R. N. Anderson and Dr. A. L. Doucette offered an evening course in senior Philosophy of Education during 1959-60. Dr. F. E. Churchley organized a University choir which performed on some four or five occasions during the academic year. Dr. T. G. Finn served as Secretary to the Faculty and, with the appointment of Dr. A. L. Doucette as Associate Dean, his service terminates as at the end of August, 1960.

Miss E. M. King continued her graduate study at the University of Iowa. Mr. S. A. Lindstedt taught summer school at the University in Edmonton. Miss B. Newton continued her post-graduate study, majoring in the field of reading, at the University of Missouri.

Mr. S. Norris continued his doctoral studies at Stanford and has now completed the oral section with only a dissertation remaining to complete doctoral requirements. Mr. A. E. D. Schonfield attended the University of Oregon on post-graduate study. It was announced in the spring of 1960 that Mr. Schonfield transfers from the field of Educational Psychology to that of General Psychology in the Faculty of Arts and Science. Miss Helen Stadelbauer taught summer school at the University in Edmonton, as did Mr. A. G. Storey. Dr. J. G. Woodsworth continued in Student Advisory Services up to the time of the takeover by Miss Helen McWilliam. He now continues full-time in the field of Educational Psychology.

(c) Faculty of Engineering:

During the 1959-60 term first-year engineering has been offered to a class of about sixty students at the University of Alberta in Calgary. Ninety-six applications were received. Of these, sixty-six students actually appeared and were registered. This number has been reduced by transfer or withdrawal to fifty-nine who actually wrote final examinations. The results of the examinations are not yet available.

Members of the first-year engineering class took a normal part in athletic and extra-curricular activities. A branch of the Engineering Student Society carried on activities here parallel to those in Edmonton. Members of other faculties co-operated well with the Engineering Faculty in offering instruction for the class, as did the Director, the Assistant Director, the Provost and the staff of the Provincial Institute of Technology and Art. The National Employment officer stationed at the Institute has already secured employment for a number of class members. It is anticipated that within a week or two of the close of survey school most students will be working at suitable jobs.

The engineering staff consisted of two full-time instructors, augmented by two more instructors from Edmonton for the period of survey school. During the year the Dean and the Associate Dean of the Faculty, and the Head of each Engineering Department or his appointee spoke to the class. This helped Calgary students to realize their close ties with the Faculty in Edmonton. The Calgary staff went on with plans and preparations for the move to the new University facilities in September. With the co-operation of Department Heads in Edmonton, equipment is being ordered and will soon be installed. In September the staff here will be brought to five in preparation for the offering of First and Second Years of Engineering in 1960-61. Calgary staff members took part in an extension course in engineering mathematics and gave several lectures and radio talks.

(d) Student Counselling Services:

The increasing enrolment at the University of Alberta in Calgary has resulted in two full-time appointments in the past year. Mrs. P. Gore commenced work as secretary on April 20th, 1959, and Miss H. McWilliam was appointed Counsellor as of August 1st, 1959. Dr. J. G. Woodsworth left Student Counselling Services on September 15th, 1959 to devote his time to the Department of Educational Psychology. He has, however, very kindly made his experience and knowledge available to his successor at all times.

The principal work of the department has been the counselling of students, particularly in relation to their choice of a programme of studies and the development of study skills, but also with regard to the personal problems which arise from time to time. The Counsellor attended a total of twenty-five Career Events in schools throughout Southern Alberta to give prospective students information about the University. Other work has included the administration and interpretation of the scholastic aptitude tests to freshmen. The Counsellor has, under the direction of the Administration of Student Awards, been responsible for matters pertaining to the administration of the Students Assistance Act at the University of Alberta in Calgary.

In conclusion, it is a pleasure to acknowledge the help and guidance of Dr. A. J. Cook, his staff members, and the staff of the University of Alberta in Calgary.

(e) Library:

During the year 1959-60 2,600 volumes were added to the holdings of the

Library, making a total collection of some 24,200 volumes. A marked increase in the activity of all areas of the Library took place during the year. There was a thirty-seven per cent increase in both circulation and attendance statistics.

Staff consisted of one librarian, Miss Dorothy E. Ryder, and three library assistants. Student assistants were employed for a total of 299 hours.

Reclassification of the library holdings to the Library of Congress Classification System was completed in February 1960.

(f) *Extension activities:*

Department of Extension activities in Calgary for the year 1959-60 were increased threefold over the previous year. Thirty-two classrooms with janitor services were provided in the Education and Arts and Science buildings through the co-operation of the Director's secretary, Mrs. Raine. The University Audio-Visual equipment was again placed at the disposal of Extension course lecturers and used very extensively.

The service rendered by Mrs. O. M. Smith, Extension Representative, appointed this year, included the handling of enquiries, mailing lists, registration fees, deposits, petty cash payments, classroom arrangements, textbooks, evening class checking, catering services, etc. Although this year's programme was very heavy, very little outside assistance was procured by the Department.

*A total of 1,453 students attended 43 classes on campus. The sum of \$16,894.45 was collected in fees here as compared to \$6,633.50 last year. Textbook sales amounted to \$945.45 as compared to \$186.50 last year.

As well as courses held on campus there were 7 special groups sponsored by the Extension Department held at selected points in the city. This office handled the majority of enquiries and registration for these.

The following is a list of course given this year with respective registration figures:

1. Fall term 1959 (September-December)

(a) *On Campus*

French Introductory	25
French Senior	23
Spanish (3 classes)	55
Russian Beginners (2 classes)	46
Russian Advanced	11
Law in Action	59
Psychology	38
Philosophy	37
Electronic Computing Programming	26
Creative Writing	17
Office Management	40
Introduction to Supervision	33
Choir Training	27
Introduction to Oilfield Practices	53
Leadership in Parent Education	8
Numerical Methods	14
Engineering Mathematics	33
Personnel Administration	31
Labour Economics	18
Real Estate	53
Industrial Relations Seminar	20
Total	667

*Figures are not available for Calgary courses registered and receipted for in Edmonton.

- (b) *Off Campus*
 Social Welfare Groups I and II
 English Usage
2. Winter-Spring term 1960 (January-May)

(a) <i>On Campus</i>	
French Introductory (2 classes)	40
French Introductory (continued)	12
Senior French (continued)	12
Spanish Beginners (2 classes)	37
Spanish (continued)	21
Beginners Russian (continued)	15
Beginners Russian (2 classes)	41
Advanced Russian	7
Law in Action	24
Psychology	50
Electronic Computing Programming	21
Creative Writing	16
Office Management	24
Conference Method and Technique	9
Choir Training	23
Italian Conversation	26
Income Tax Procedure	15
Frontiers of Science	134
Building or Buying Your Home	50
Horticulture	27
English Conversation and Pronunciation	26
Introduction to Economics	13
Acting	31

Pre-January courses still in session:

Engineering Mathematics
 Numerical Methods
 Personnel Administration
 Real Estate
 Labour Economics

(b) <i>Off Campus</i>	
Managing Investments	49
Fundamentals of Supervision	31
Airphoto Interpretation	32
Social Welfare Group I and II (continued)	
English Usage (continued)	
Garden Workshop	

Total	786
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(g) *Report of the Provost, Dr. J. D. Aikenhead:*

Under the capable direction of Dr. J. D. Aikenhead, student activities on the Calgary campus were extremely well supervised. Dr. Aikenhead terminates his posting as of August 31st, 1960 and Dr. A. A. Gibb, who is on sabbatical leave in California, will be asked to continue for a three year term.

(h) *School of Physical Education—University of Alberta in Calgary:*

The School of Physical Education provided a Service programme of two periods a week to all first year students in the Faculties of Engineering and Arts and Science. This was made up of three classes of men from the former and two classes of women and four classes of men from the latter. It also gave professional teaching courses to all first year students in the Faculty of Education, both in the Junior Elementary and the degree programmes, as well as to those Education students in senior years who had elected Physical Education as a "Major" or a "Minor".

The intra-mural athletic and recreational programme was continued on the basis of inter-faculty and inter-department competition. The School was rather successful in its object of having every man and woman on the campus participate in one or more sports. A great part of the intra-mural programme took place during the noon intermission when organized leagues in Basketball and Volleyball for men and women, and Football and Hockey for men were conducted. Badminton, curling, cross-country running, skiing and a women's Play Day were conducted after class hours. Despite the severe handicap of space requirements, approximately 80% of the students took an active part in at least one organized activity.

The extra-mural programme included full affiliation in the Calgary Inter-collegiate Athletic Association which conducted leagues in men's and women's basketball, volleyball, curling, and skiing, as well as hockey for the men. A few exhibition games and tournament participation rounded out a very successful programme. The University Athletic Board is currently negotiating to enter into the Western Canadian Inter-Collegiate Athletic Union and is anticipating the time when Calgary will be recognized as a full fledged University.

An additional female staff member improved the calibre of intra-mural activity as well as distributing the extra-curricular load of other staff members. All members of the staff are looking forward to the construction of a Gymnasium on the new campus and are working diligently on the project which is now in the blue-print stage.

In all aspects of its work including the professional courses, the service classes, the intra-mural and extra-mural programmes, various speeches and advisory work, the members of the School of Physical Education have constantly sought to keep the philosophy of Education and Physical Education on a high level and attempted to keep sight of all the major objectives of citizenship and sportsmanship coupled with the best possible academic standing of all students.

(i) Bookstore Operations:

The Bookstore operated in the same manner as last year with this office (Mr. Symington's) distributing books not received prior to or during the period the operation was handled by the Edmonton representative, Mr. J. Malone.

(j) Fee Operations:

Cash received in Calgary	\$ 97,665.05
Fees payable for Education students (Students' Assistance Act, Schedule C-1 (b) and (c))	76,844.00
Fees payable by D.V.A.	313.25
Fees payable by Indian Affairs Branch	212.00
	\$175,034.30

Note: Registrations total 804 students (includes partial registrations)

The following Bursary cheques were issued to Faculty of Education students:

(a) Graduate students	\$ 2,000.00
(b) B.Ed. 2nd yr. students	18,800.00
(c) B.Ed. 1st yr. students	21,700.00
(d) Junior "E" students	31,600.00
	\$ 74,100.00

<i>Scholarships:</i>	
47 students awarded	\$ 12,575.00
<i>Loans:</i>	
50 students awarded	18,300.00
<i>Grants:</i>	
40 students awarded	6,875.00
	<u>\$ 37,750.00</u>

All cheques for the above were distributed through the Fee Office.

(k) *Medical Services:*

This service was carried on effectively during the 1959-60 Session under the direction of Miss M. O. Cogswell, R.N. The Calgary Associate Clinic continued to render us a valuable service at a figure that I often felt was a little on the low side. It might well be that in the coming Session the Medical Services Fee will have to be raised.

There were not many cases of serious hospitalization and no heavy drain on the Medical Services fund as a result of follow-up medical attention. The result is that the Medical Services fund will now be in a healthy state knowing that the Board of Governors has set aside the sum of \$10,000.00 to cover 1960-61 operations, though the first charge against this grant will be the \$1,100.00 deficit which has accumulated over the last five years. This grant of \$10,000.00 is also to include the cost of Medical Services and the salary of the Health Nurse. She will be devoting her full time to Medical Services in 1960-61.

Report of Dr. J. W. Gilles, Director of the Summer Session

1. *Registration and Attendance*

The advance registration for the 1959 Summer Session reached a total of 3,264. Of this number, 550 students failed to attend so that the actual enrolment amounted to 2,714, an increase of 490 over that of the preceding year. To this number must be added another 58 students who were registered in the Emergency Teacher Training Program, and 69 in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1959 Summer Session was 2,841 compared with 2,409 last year. A summary of the attendance figures follows.

Summary of Attendance

<i>Faculty of School</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Education	899	1,261	2,160
Arts and Science	135	57	192
Graduate Studies	133	31	164
Commerce	5	1	6
Engineering	5	.....	5
Pharmacy	6	2	8
Household Economics .....	.....	4	4
Bachelor Physical Education	4	4	8
Nursing .....	.....	4	4
Agriculture	1	.....	1
Special students	74	88	162
	<u>1,262</u>	<u>1,452</u>	<u>2,714</u>
<i>Emergency Teacher Training Program</i>			58
<i>Leadership Course for School Principals</i>			69
			<u>2,841</u>

Of the 7,714 students who attended the regular Summer Session, approximately 80% were registered in the Faculty of Education, 7% in the Faculty of Arts and Science, and 6% in the Faculty of Graduate Studies. The remaining 7% were distributed through various schools and faculties or were registered as special students.

A summary of Summer Session enrolments for the last five years is given below.

Summer Session Enrolments, 1955-59

Year	Regular S.S. Courses	Emergency T'cher Train'g Program	L'dership Course	Total
1955	1,674	160	.....	1,834
1956	1,898	202	67	2,167
1957	1,906	178	65	2,149
1958	2,224	110	75	2,409
1959	2,714	58	69	2,841

It will be noticed that enrolments in regular Summer Session courses, which increased sharply in 1958, showed an even more marked increase in 1959. During the past two years Summer Session enrolments have increased by 42%.

The Emergency Teacher Training Program, which was inaugurated in 1954, will not operate beyond 1959. Registrations in that Program have been dropping steadily since 1957 when the last group of new students was admitted.

2. *Instructors*

The Summer Session teaching staff, including that of the Emergency Teacher Training Program comprised a total of 132 instructors, 12 more than in 1958. Of these, 98, or 73%, were regularly engaged in teaching at University or junior college levels, or had had several years of such experience in the recent past. However, only 62, or 46%, were members of the staffs of the University of Alberta or of affiliated colleges. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time Members of University Staff	57
Instructors from Alliliated Institutions	5
Guest Instructors From Alberta:	
Department of Education	8
School Systems	21
Others	9
	38
From Other Canadian Provinces	9
From U.S.A.	19
From Other Countries	4
	70
	132

Visiting instructors from outside the Province included the following:

Mr. Ray L. Allen	University of Western Ontario, London
Dr. Richard V. Andree	University of Oklahoma, Norman
Brother Austin	Hillside Hall, Troy, New York
Dr. Walter S. Avis	Royal Military College, Kingston
Miss Betty Bandeen	University of Western Ontario, London
Dr. Ronald H. Buchanan	Queen's University of Belfast, Ireland
Dr. Riley J. Clinton	Oregon State College, Corvallis
Mr. Thomas C. Correll	Churchill, Manitoba
Dr. Ernest A. Crawford	University of Dublin, Ireland

Dr. J. Darbelnet	Bowdoin College, Brunswick, Maine
Miss Catherine M. Geary	Loyola University, Chicago
Dr. Bentley B. Gilbert	Colorado College, Colorado Springs
Mr. Robert J. Gregg	University of British Columbia
Dr. Eleanor E. Hanlon	Syracuse University, Syracuse, N.Y.
Miss Marjorie Jenkins	Macdonald College, Quebec
Dr. Hector G. Kinloch	Yale University, New Haven, Conn.
Dr. Stephan Korner	University of Bristol, England
Dr. Winifred Langan	Manchester, England
Miss Elizabeth Lehr	Colorado State College, Greeley
Dr. Gordon F. Lewis	Rollins College, Winter Park, Florida
Dr. John K. Lindsay	University of South Carolina, Columbia
Dr. W. A. G. McAndrew	University of New Brunswick, Fredericton
Mr. William F. Mackey	Laval University, Quebec City
Dr. Samuel E. Martin	Yale University, New Haven, Conn.
Miss Lucille M. Mozzi	Chicago, Illinois
Dr. William M. Phillips	A. M. & N. College, Pine Bluff, Arkansas
Dr. Richard A. Pierce	University of California, Berkeley
Dr. Kenneth L. Rinehart	University of Illinois, Urbana
Dr. Wendel Stephenson	University of Oregon, Eugene
Miss Dorothy Stoflet	Hunter College, New York
Mr. Bergie Thorsteinsson	Department of Education, Victoria, B.C.
Dr. Robin W. Winks	Yale University, New Haven, Conn.

3. Courses

A total of 113 courses, eleven more than last year, were offered in the 1959 Summer Session—109 for students in the regular session and 4 for those in the Emergency Teacher Training Program. Use was again made of shops and classrooms at Victoria Composite High School for offering courses in Industrial Arts and Business Education.

In co-operation with the Canadian Linguistic Association the University again conducted, as part of the Summer Session, a special Summer School of Linguistics. A program of nine courses, all carrying University credit, was offered. The Canada Council was pleased to make a grant of \$1,000 to the University to help meet the expenses of bringing to the campus as guest lecturer an outstanding linguist from the United States. A total of approximately 195 course registrations were received in the nine-course program.

In co-operation with the Canadian Mathematical Congress and the Alberta Department of Education, the University conducted a Summer Institute for Modern Mathematics coincident with the Summer Session. Two special courses carrying University credit constituted the formal program of the Institute. Registration was limited to approximately fifty teachers of high school mathematics. Generous financial assistance provided by the three sponsoring organizations was made available to all students selected to attend the Institute.

Sociology 60—Sociology of Group Relations which was first offered in the 1957 Summer Session at the request of the Canadian Council of Christians and Jews (Western Division) was offered again in 1959.

The non-credit short course in educational leadership for school principals was given again at Concordia College during the 1959 Summer Session with 69 principals in attendance, seven of them women.

4. Size of Summer Session Classes

A definite attempt is made to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected fall into two classes: Those where specialized equipment needed for teaching is available in only limited quantities; and courses in certain fields such as History, English,

and Elementary Education where several different courses are available. Generous quotas, and a generous provision of courses in these areas provide assurance that students' needs are adequately met. In the cases of courses much in demand, especially where these are required courses in certain degree programs, multiple sections are provided.

The following table shows the distribution of classes according to size in the 1959 Summer Session.

Distribution of Classes According to Size

Size of Class or Section	Frequency
10 students or less	13
11 to 40 students	72
41 to 60 students	38
61 to 80 students	12
81 to 100 students	1
Over 100 students	2
Total	138

In the 1959 Summer Session, the average class size was 35 students as compared with 34 in 1958 and 34 in 1957.

5. *Special Events Program*

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of two lectures. The speakers in the lecture series and their topics were: Samuel E. Martin, Associate Professor of Far Eastern Linguistics, Yale University, "Current Trends in Linguistics"; and Richard V. Andree, Associate Professor of Mathematics, University of Oklahoma, "Computers and Mathematics for Everyone".

The Summer Session also co-operated with the Edmonton Symphony Society and the Department of Extension which jointly sponsored a series of four evening concerts in Convocation Hall during the Session.

The Rutherford Library again sponsored a series of weekly recorded programs of music and plays which were presented in the Music Listening Room.

A Service of Worship conducted by Reverend V. R. Wishart, University Chaplain, United Church of Canada, was held in Convocation Hall on Sunday, July 26.

6. *Concomitant Activities*

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Grade XII Summer School for Teachers

Concurrently with the 1959 Summer Session the Department of Education operated a special Grade XII Summer School for Teachers who had been admitted to a one-year training program with matriculation deficiencies. Since most of these teachers had taken the year of training at the University, it seemed to be fitting that the Grade XII classes be conducted on the Campus in University classrooms. The instructional program was administered by the Department of Education which collected tuition fees from those who registered. These students also paid a "general fee" to the University in return for which they received an Evergreen and Gold card which entitled them to membership

in the Summer Session Students' Union and to all the other privileges and services normally available to Summer Session students. Approximately 550 teachers registered in the Grade XII Summer School, of whom about 25% carried one Grade XII course and one University course.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization, were given between the hours of 3:00 and 6:00 p.m. Approximately 180 teachers completed the courses this summer as compared with 80 last year and 90 in 1957.

Chest X-ray

A mobile TB Chest X-ray unit, provided by the Alberta Tuberculosis Association, was in operation on the Campus for three days.

Banff School of Fine Arts Production

The Summer Session co-operated actively with the Department of Extension to promote attendance at the Banff School's presentation of "Madame Butterfly" in the Jubilee Auditorium on August 10.

Report of Dr. J. W. Gilles, Director of the Evening Credit Program

In 1959-60, Evening Credit Program courses were offered at ten centres, two more than last year. Courses were offered for the first time this year at Trochu and Wetaskiwin. Westlock replaced Barrhead as the centre for Evening Credit Program courses offered in that area.

The total number of students registered for courses was 925 as compared with 811 in 1958-59, an increase of approximately 14%. This was a much more modest rate of increase than the 48% reported last year. This may indicate that registrations at the major centres, Edmonton and Calgary are tending to level off.

The salient features of this Evening Credit Program as compared with last year's are set forth in the following summaries.

Centres, Courses and Registrations

Centre	Number of Courses Offered		Number of Students Registered	
	1958-59	1959-60	1958-59	1959-60
Edmonton	18	26	479	551
Calgary	5	5	131	141
Lethbridge .....	.....	1	.....	31
Red Deer	1	1	61	39
Camrose	1	1	36	27
Vegreville	1	1	41	29
Holden	1	1	31	31
Westlock (Barrhead)	1	1	20	22
Grande Prairie	1	.....	12	.....
Trochu .....	.....	1	.....	19
Wetaskiwin .....	.....	2	.....	35
	—	—	—	—
	29	40	811	925
	—	—	—	—

Classification of Students

	Registration	
	1958-59	1959-60
Faculty of Education	576	662
Faculty of Arts and Science	82	102
Faculty of Graduate Studies	32	25
School of Commerce	17	16
Other Faculties and Schools	5	8
Special Students	99	112
	811	925

The percentages of students registering in the Faculty of Education and in the Faculty of Arts and Science remained unchanged from last year at 71% and 10% respectively. The registration of graduate students in the Evening Credit Program continued to decline in spite of the general increase in total registrations.

Outside of the cities of Edmonton and Calgary, Evening Credit Program classes are composed almost entirely of teachers. It is gratifying to note, however, that at Edmonton 25% of those who registered were not teachers. At Edmonton, also, about 20% of the students registered for two courses. The fact that one out of three of these students dropped one or both of their courses seems to indicate that two courses may be too heavy a load to be carried by people fully employed during the day.

Teaching Staff

The Evening Credit Program employed a total of 41 instructors, of whom 33 were also members of the University's regular teaching staff. The classes at Red Deer, Camrose, Vegreville, Holden, and Westlock were taught by instructors from Edmonton. The instructors for Wetaskiwin were recruited locally and from Red Deer. Red Deer also supplied an instructor for Trochu. The course at Lethbridge was taught by an instructor from the Junior College.

Report of Mr. B. B. Peel, University Librarian

A university library provides services essential for instruction and research. So vital are these services that their quality is generally held to be a reliable index of the university itself as a centre of learning and scholarship. At the University of Alberta, the Library, with the rest of the University, has entered a period of rapid change and development. For the third successive year our statistics record substantial increases in the acquisition of printed materials and in the use of the library's resources by the campus community. From being a library geared largely to an undergraduate program, we are moving toward the goal of becoming a large research library with sufficient resources to support the graduate and research programs of a major university.

In the year just ended the number of books added increased by 44%, while expenditure on books and periodical subscriptions was up 49%. The expenditure on books this year was approximately \$98,000, and the total, with periodical subscriptions, \$124,000. Including books, bound periodical volumes, pamphlets and documents, the library added about 38,600 items. The accelerated growth of the library's collections is creating a problem of storage space which will become acute in the Rutherford and Education Libraries before relief can be expected from new construction.

The circulation of books from the three libraries of the university library system—Rutherford, Education, and Calgary—was 324,267 volumes, represent-

ing an increase of 15%. Since thousands of books are consulted or read in reading rooms, this figure does not fully indicate the total use of the library. The greatest percentage increase in circulation was registered from the main stacks, followed closely by the Applied Science Reading Room.

Library attendance (student hours spent in the library) was up by 23%, to total 797,540. As with the circulation of books, the greatest percentage increases in attendance were recorded in the main stacks and the Applied Science Reading Room. Library reading rooms have reached, or are close to, their maximum reader capacity during peak periods of the day.

The library staff continued to give instruction to students in the use of the library's catalogues and indexes. A revision of our method of instructing freshmen has made instruction to this group more effective, and has enabled us to accommodate the rising numbers of freshmen registering each year. This instruction is supplemented in the Education, Medical, and Applied Science Libraries. In the latter area over 120 hours of staff time were spent instructing groups of junior students of agriculture, engineering, and chemistry in the use of indexes and reference tools in their subjects. In Calgary all freshmen were given instruction and a four-page pamphlet was distributed.

Changes in hours were introduced during the term when the Reference, Medical, and Applied Science Reading Rooms were opened half an hour earlier. The Education Library and the Calgary Branch were also open longer hours. As in the previous year, three areas of the Rutherford Library were open on Sunday afternoon during the university term.

Staff

The staff on the Edmonton campus numbered forty-five persons and that in Calgary, four. This was an increase in staff of seven persons in Edmonton and one person in Calgary. The additional staff was not sufficient to catch up to the increasing volume of work, so that the work load per individual staff remained extremely heavy. The library's work accomplishments during the year is a tribute to the industry, team work, and loyalty of all members of the library staff.

Professional librarians continued to be difficult to obtain, but the library was fortunate in acquiring the services of three efficient new members, Miss Patricia McNeill as supervisor of the Reserve Reading Room, Mr. Ralph Nielson as a general cataloguer, and Mr. Sidney Harland. Since professional staff did not increase as rapidly as junior staff, the responsibility of professional staff in directing and supervising remained extremely heavy.

Changes in the non-professional staff were more numerous than in most other years, and in some areas of the library these changes seriously interfered with library service.

In June, 1959, the Canadian Library Association held its annual conference on the University of Alberta campus, and all members of the professional staff participated actively.

Library Committee and Sub-Committee

The Library Sub-Committee met eight times during the year to advise the Librarian on operational problems. During the year the Committee made a study of library organization, and recommended changes in the present policy of a highly centralized library system. In October Dr. L. H. Cragg, the newly appointed Vice-President of the University, took over as chairman of the Library Sub-Committee.

The main Library Committee met at the end of October and discussed matters of library policy.

Order Department

Miss Leversedge, Order Librarian, reports that her department increased its book ordering by 48% over the previous year. Of orders placed, a total of 16,785 volumes (an increase of 5,481) were received. Gifts and free material totalling 638 volumes, and the purchase of a private library of 265 volumes, brought the total number of books added to our collection to 17,688. The comparative figure for last year was 12,249, so that the library increased its annual acquisitions by 44%. The library had 3,900 volumes—mostly current periodicals—bound, and these were added to our stack collection.

To keep up with the work load two new staff members were added during the year to bring the staff to six persons. A trend in our ordering as we develop into a research library is that larger quantities of out-of-print materials and more books in foreign languages are requisitioned; these types of materials take more work in ordering.

Subscriptions were placed for an additional 250 periodicals on the Edmonton campus, to bring subscriptions to 1,821. The increase in periodical titles in one year was 16%. To expedite the recording of issues of periodicals as these are received, the department redesigned the checking cards and transferred the records to a new electrically-powered rotary file.

Cataloguing Department

The report of Mr. Baird, Chief Cataloguer, states that 21,771 volumes were catalogued, 6,863 more volumes than last year, or an increase of 45%. The number of volumes catalogued is significant when compared with statistics of a few years ago, for several years before 1957-58 the number of volumes catalogued each year averaged slightly over nine thousand.

The reclassification of the Calgary collection undertaken in 1958 was completed during the summer of 1959. In collaboration with the Reference Department, a consolidated record of the library's periodical holdings, both bound and unbound, was compiled. Tilted guide-cards filed at frequent intervals in the union catalogue enhanced its appearance and improved its useableness. The accession record was changed from a book record to a file of slips, expediting the accessioning process.

The department continued its agreement with the Research Council of Alberta to catalogue their new accessions. This year the books catalogued numbered 273.

The department added one professional cataloguer and one clerical during the year, bring the full-time staff up to nine.

Reference Department

Miss Hamilton, Reference Librarian, states in her report that her department, in its primary function of finding information, provided the answers to 6,290 questions, some entailing lengthy research by the Reference staff.

The interlibrary loan service borrowed volumes, or purchased photostats or microfilm, to fill 704 requests from staff and graduate students for material not available in our library. An increasing number of requests is obtained in the form of photostats or microfilm rather than by borrowing the material. Our library sent 282 volumes on loan to other libraries.

Spring and fall convocation added 97 theses to the library's collection. During the year students and staff consulted 343 theses, while other institutions borrowed 57 theses through the interlibrary loan service.

The library added 15,157 documents during the year. The library is a selective depository library for Canadian government and United Nations publications, a depository for all Alberta government, UNESCO, and F.A.O. publications. We also receive British Command Papers, some British agricultural economic reports, and a few United States government documents.

The library now has over 16,000 maps. During the year our acquisitions were 1,003 foreign and 730 Canadian maps.

The Periodical Reading Room which, by the end of the year contained 1,121 periodicals and 17 newspapers, had a circulation of 21,271. This circulation figure includes 2,678 issues sent to departments on automatic circulation.

The bindery division of the Reference Department sent 3,910 volumes to be bound, as compared with 3,017 last year. The increase reflects the growth in number of periodicals to which the Library subscribes, and which are bound for permanent retention. The Library is also acquiring back files of periodicals, some of which are purchased unbound. In addition to the volumes sent to binderies, the Library pamphlet-bound or repaired three or four hundred items. In the past the Library experienced frustrating delays at binderies, but happily this year the work flowed smoothly. Binding costs this year were up by an average of \$1.10 per volume.

The Reference Department operated under difficulties during the winter session because of staff changes and staff illnesses.

General Circulation Department

The annual report of the Circulation Librarian, Miss Freifield, shows that the circulation of books from the main stacks was up by 31%. The number of volumes circulated from the stacks was 67,695 volumes. Attendance in the stacks was 51% higher, perhaps reflecting the greater number of senior students now in attendance at the university. In the Reserve Reading Room the use of books was 49,722, an increase of 4%. Attendance in the area was up by 9%.

A re-allocation of staff duties was introduced in the department to facilitate the borrowing of books at the main Circulation Desk. As larger numbers of books are in circulation, the problem of recalling books is becoming a problem of some proportion. Too many borrowers, instead of returning a book when it is due, wait for a recall notice as a reminder. The department sent out 8,029 recall notices, and made numerous phone calls, thus tying up staff time which could be put to better use.

Summer Session 1959 remained at the same heavy level as the previous year. Extramural loans for pre-Summer Session study totalled 755, a substantial increase over the previous year.

Law Library

Mr. Noden, Law Librarian, notes that attendance was slightly lower, but that circulation of books was up by 10%. Circulation was 12,413 volumes, but this does not present an accurate picture of the use since most of the material is consulted in the reading room by law students who spend long hours in the library.

Nearly 500 volumes, consisting of texts, reports, statutes, periodicals, and reference books were added to the collection. This year a faculty book

selection committee operated efficiently in selecting books and in drawing up a program for the balanced growth of the collection. During the summer considerable re-arrangement of the books was carried out with a view to making the best use of the dwindling shelf space.

Applied Science Reading Room

The Applied Science Librarian, Mrs. MacDonald, reports a tremendous increase in both attendance and circulation. Attendance was 125,453, an increase of 47%. The circulation figure of 23,361, an increase of 29%, does not indicate fully the use made of the collection since this is an open shelf reading room. The staff work load has been particularly heavy.

Toward the end of the year the heavy and constant use made of chemical journals by staff and students made it necessary to restrict the use of them to the reading room during the week. The absence of journals on circulation had inconvenienced and frustrated would-be users who came to the library to check references or make literature searches.

Medical Reading Room

In September Miss Russell was appointed Medical Librarian upon the resignation of Miss Giffen, now Mrs. W. Watson. An additional member was added to this department to bring the staff to three.

The circulation of material in this reading room was 28,768 volumes, an increase of 16%. Attendance increased by 17%. As in the past, medical practitioners throughout the province, and particularly in Edmonton, made extensive use of the facilities of this reading room.

A fellowship course in surgery offered by the university and open to practising physicians has involved the Library in supplying a large number of photostats of periodical articles to persons enrolled in the course.

The Medical Science collection consists of nearly 20,000 volumes, of which 8,600 are bound periodicals.

Education Library

The Education Librarian, Miss English, reports another busy year with circulation reaching 80,560 volumes, an increase of 17%.

Summer Session 1959, as in other years, was a hectic six-week period which placed a great strain on the services of the Education Library. An innovation was the removal of the periodicals to a special periodical room for the duration of Summer Session. This relieved some of the congestion in the main reading room, and facilitated the use of the journals.

A more satisfactory method of dealing with the circulation of enterprise material to students going into city schools for their practice teaching period was evolved.

In response to a request from a group of professors and students, the library was opened over the supper hour four evenings per week.

Calgary Branch

The Calgary Librarian, Miss Ryder, reports an increase in attendance in the library of 37%, which she attributes to rising enrolment, lack of study space outside the library, and longer library hours. The attendance was 90,497, while the circulation of books was 29,371.

The library added 2,060 volumes to its collection and took out 195 new subscriptions to periodicals, bring the number of periodical titles received to 299. The Librarian has been active in acquiring gifts and exchange materials in anticipation of the Library's great need with the expansion of courses.

The reclassification of the collection under the Library of Congress scheme was completed in February, 1960.

The Library staff during the year consisted of four persons.

At the end of the year this Library prepared to take over the ordering and cataloguing of books; hitherto all processing of books has been done in the Rutherford Library in Edmonton.

Miscellaneous Services

The supervisor of the Music Listening Room, Mrs. Marjorie Corah, reports a most successful year of lunch-hour concerts. During the term over 3,600 persons attended.

The photostating service processed 331 requests representing 3,453 pages of photostats. This substantial increase in demand was largely due to the need for medical references by doctors taking the fellowship course in surgery.

Gifts Received by the Library

From the Latter Day Saints, thirty books on the Mormon religion.

From Dr. J. Weijer, *Historia der Insecten* (Amsterdam, 1766).

From the Friends of the University, five copies of Dr. E. H. Moss' *Flora of Alberta*.

From Mr. H. A. Dyde, collection of books on the First World War.

From the College of Physicians and Surgeons, \$300.00.

From the Canadian Cancer Society, \$1,398.23.

From the Canadian Foundation for Poliomyelitis, \$200.00.

From Mrs. I. Gonsett, \$500.00 for purchase of Ukrainian material.

From Dr. A. L. Doucette, twenty books on education for Calgary.

From Mr. R. J. Merritt, sixty volumes by standard authors for Calgary.

Report of Professor A. A. Ryan, Provost

General

An energetic and independent Students' Council made the past year in student affairs one of the liveliest since the departure of the student veterans.

Mr. John Decore, President of the Students' Union, and Miss Mary Galbraith, Vice-President, deserve praise for the way in which they combined constructive leadership with a careful subordination of their personal opinions to the wishes of the student majority.

The Students' Union in Calgary had an equally successful year, thanks in no small measure to the dignity and tact of Mr. Glenn Allen, President of the Union, and to the human warmth of Dr. Doucette, retiring Director of the University of Alberta in Calgary.

Student Government

The separation between the University Athletic Board and the Students' Council which was approved in principle a year ago, was made official this year, though only after some opposition by those members of the student government who feared that this would mean taking control over the recreational program out of student hands. As now constituted the University

Athletic Board has a preponderance of student members and close ties with the Students' Council, but handles its own finances.

A much livelier issue involved the terms of reference of the Committee on Student Affairs. Members of the Students' Council raised strong objections to the provisions of the original terms, as set out by the Senate in March 1911, on the grounds that they discriminated in favor of the non-student members of the Committee. They also objected that the scope of the committee should be more clearly defined, and that its procedure should be more formal. It was finally agreed that while it would be inappropriate and inadvisable to shackle the Committee with an elaborate Constitution, a fuller statement of its *Organization, Powers and Duties, and Rules of Procedure* should be drawn up to meet the objections advanced by the students, and that it should be submitted to the Senate for approval.

A new organization which is growing in importance is the Graduate Students' Association. It promises to develop rapidly and in a large measure apart from the Students' Union.

Student Activities

The number and variety of student activities remained much the same as last year, with the notable exception that intercollegiate football made a successful return to the Campus in the fall. For next year, an Alumni Homecoming Weekend is planned with a football game as the focus of events.

A highlight of the year was the performance of "Souise Pacific" to enthusiastic audiences during Varsity Guest Weekend. This marks the first attempt on this campus at a major student show of the kind represented by McGill's "My Fur Lady".

Under the determined editorship of Mr. Joe Clark, *The Gateway* reached a new high as an all-round campus paper in its regular issues and a regrettable low in a post-season "gag" edition.

Public Relations

Student effort in the field of organized public relations continued at a commendable level. The three major ventures were the eleventh Annual Civic Banquet, the twelfth Annual Parliamentary Dinner, and the ninth Annual Varsity Guest Weekend, the last of which brought forth a record attendance.

A new venture was the setting up of a Campus Press Bureau under a Students' Union Public Relations Officer to improve public awareness of student activities through the medium of the press, radio, and television.

Residences

The Wardens and the House Committees report a successful year. It is hoped that the examination results will show that a simple record system set up by the Wardens to check the academic progress of first year students has been of value.

Strong representations continue to be made by the student body about the urgent need for more residences.

It is noted with regret that Miss Simpson is retiring as Warden of Pembina Hall, and that both Mr. Sherbaniuk and Mr. Cheal, Wardens of the Men's Residences will be leaving the Campus to pursue advanced studies elsewhere.

Fraternities

The unfavorable publicity afforded fraternities during the year in the Canadian and American press, as well as the pressure of local events, has led

the Interfraternity Council to revise and rewrite its Constitution and By-Laws in recognition of the fact that, if the college fraternity system is to survive, it must demonstrate its maturity and responsibility.

An example of interfraternity co-operation at its best was afforded by this year's Song Fest which was marked by excellent taste and a high level of competence.

Discipline

It is a pleasure to report that there were no serious disciplinary problems this year. Much credit for this fact is due to the leaders of the major student groups and to the good morale of the student body in general.

The Maimie Shaw Simpson Award

A fitting tribute to the retiring Dean of Women, Miss Maimie Shaw Simpson, was paid by the Students' Union in setting up the award which is to bear her name. The award is to go yearly to an outstanding woman student "who has contributed in a variety of activities" and "exhibits traits of sincerity and quiet efficiency".

Report of Professor Maimie S. Simpson, Dean of Women

Interviews

Interviews with students still continue to take most of the time in office hours. There has been a marked increase in the number of interviews because of the larger enrolment of women in the first year.

Financial Assistance

Babysitting, student assistantship in the Rutherford and Education Libraries, and a few hours, on occasion, at the Alumni Office have given the extra financial assistance needed by a number of the students.

Extracurricular Activities

The Scheduling Committee with careful consideration, is still handling the major events that continue to keep pace with the increased enrolment. The opening of the new Physical Education Building will undoubtedly ease the problem of time and place for each activity.

Dances, informal and semi-formal, meetings of the Wauneita Society, of the Co-Wed Club (now in its second year, and thriving) gatherings with Mixed Chorus; Sunday Musical Club Concerts; meetings of various religious organizations were attended upon invitation.

The monthly meetings of the Panhellenic Society were attended in an advisory capacity and upon request of the fraternity women.

Two meetings of the Graduating Class Committee held in the Spring were attended, also in an advisory capacity.

This year Mrs. R. S. Eaton accompanied the Mixed Chorus for their two out-of-town concerts as the group had to be away overnight. The first concert was given in Jasper on Friday, January 29th and the second in Hinton on Saturday, January 30th. When the chorus goes on Spring Tour in the North from Sunday, May 1st, to Saturday, May 14th, Mrs. Eaton will be with them again.

The "Freshette Coffee Hours" continue to grow in numbers and in appreciation. The response to the invitations is very good.

Women Graduands

Women graduands in Medicine, Law, Commerce, Pharmacy (there are none in Dentistry or Engineering this year) and in Honours B.A. and B.Sc. were entertained at tea early in March.

The Infirmary and Hospital

Sickness among the women students seemed to be at a minimum this year. Those few who were confined were visited when possible.

Dr. Vant's Lectures

These invaluable lectures were an outstanding success in Convocation Hall with over five hundred first-year women attending each lecture. Unfortunately there are some students, who, because of late classes and late laboratories, are each year unable to be present.

Recommendations

A great amount of office time in the months of March and April is required for recommendations for students seeking summer employment, permanent positions upon graduation, and for scholarship applications.

Public Relations

This has been an unusually interesting, (but at times a bit heavy) year of speaking engagements with eleven in the late winter and spring term alone; in all there have been something over twenty, to organizations in the church, to business groups, women's groups, student organizations and the like.

In Conclusion

No report of the Dean of Women would ever be complete without a word of appreciation for the good work done by those student groups with whom she works closely: The Executive of the Wauneita Society whose President, Miss Betty Robertson, and Secretary Miss Mary-Lee Mather, are worthy of very special commendation; of the work done by the Students' Council, and the Executives of groups like the Musical Club, Mixed Chorus, Drama Society, Women's Athletic Association, Panhellenic Society, and Residence House Committees.

It is difficult to evaluate the contribution of these groups to student life on the campus of the University of Alberta.

Report of the Warden of Pembina Hall, Professor Maimie S. Simpson

Residents

(1) Pembina Hall

There were one hundred and sixty students, the Assistant Warden, the Receptionist, and the Warden, a total of one hundred and sixty-three.

(2) Pembina House

There were eighteen students and a housemother.

The demand for residence accommodation continues to be great, even serious. Pembina Hall and Pembina House were filled for the 1960-61 term on November 24th, 1959. At the time of writing this report the waiting list was 163.

Life in Pembina Hall

There was the least amount of sickness possible, nothing actually, but colds and an occasional case of influenza. There were no problems of discipline at

all and satisfactory academic work was done by the great majority. One thing was more noticeable this year than in previous years—the number of students planning to change their course patterns and in some cases, their faculties. Perhaps the age of some was responsible for the wrong choice, four girls were just sixteen years old when they started to university.

The members of the House Committee under the able chairmanship of Miss Ann Gaszler, carried out their duties faithfully and so willingly. The assistant warden, Miss Kelly, was even of more assistance than in the previous year and with dignity and poise handled any situation that arose. Mrs. Henry, Pembina's Receptionist was again, invaluable. She has, through her own quiet efficiency, gentle manner, and good sense, made a very real contribution to life in Pembina Hall.

Social life in residence included exchange dinners with the men of Athabasca and Assiniboia Halls; St. Joseph's and St. Stephen's Colleges. During Guest Weekended, Pembinites were hostesses to some fifty or more guests.

The Hall was grateful again this year for the international flavor, with one student from Hong Kong, two from Japan, and one from Scotland.

Pembinites have always made a sizeable contribution to the campus at large. A fair number were active participants each night of the Christian Mission Week; several held executive positions, many took part in the intramural sports programme of the Women's Athletic Association, and most of them were members of their own faculty club and of one other group.

Pembina House

Pembina House governed by four upperclass women and a housemother proved moderately successful. The residents enjoyed the smaller group and very much appreciated the home life in Number One, University Campus.

As a result of one year's experience the opinion is that relations would be more satisfactory if a Warden, rather than a housemother, were appointed. A graduate student, preferably with experience in the classroom, who is proceeding to a Master's Degree or a Doctorate, would be the ideal.

Further Appreciation

To Mrs. Peers, housemother of Pembina House we extend our thanks for her willing co-operation. To Mr. Lister, Superintendent of Residences; to Mr. Gerrard, our caretaker and supervisor until Christmas; to Mr. Forbes, our caretaker since Christmas; to the maintenance staff on the floors, in the kitchen and in the dining room, we extend our very sincere thanks.

Our thanks too, to Miss Mann, our dietitian and to her assistant Mrs. Skrepnik for consistently attractive meals, with table service. These meals are in no small way responsible for the good health and happiness of our young women in Pembina Hall and Pembina House.

Report of the Administrator of Student Awards, Mr. R. B. Wishart

I should perhaps begin this report by explaining that on June 1, 1959, a new administrative department known as The Student Awards Office was set up in our University. The purpose was to centralize into one office the administration of all awards and financial aid including scholarships, prizes, bursaries and Provincial Government assistance at all levels—Matriculation, Undergraduate and Graduate. Previously this work had been done: for scholarships, in the Registrar's Office, and for Provincial assistance, in the Student Advisory

Services Office. The growing volume of work plus the expanded and more complex Provincial Students Assistance Act made a re-organization necessary.

The Student Awards Office acts for the University in its relations with the Provincial Students Assistance Board. All awards under the Act are made in the form of recommendations, which are subject to the approval of the Board. Both myself, as Administrator of Student Awards, and Mr. George Samuel, Assistant to the President, serve as members of the Board.

The work of the Awards Office is in three main areas. (1) The matriculation and undergraduate awards in the calendar which are either controlled by the University or awarded by it on behalf of donors, and the Provincial Government Scholarships. (2) Grants and Loans, under the Act, to matriculation and undergraduate students. (3) Graduate Studies scholarships and all Provincial aid at this level.

To serve these areas there are three working committees. (1) The Undergraduate Scholarship Committee. (2) The Grants and Loans Committee. (3) The Graduate Studies Scholarship Committee. There is in addition an overall committee called The Student Awards Committee. This has two functions: first, to serve as a policy committee on matters of general interest concerning awards, and second, to act as the University Selection Committee as required under the Students Assistance Act and thus be able to report to the Board for the other three working committees.

The Awards Office deals with offers of new awards, carries on any necessary conversations or correspondence with prospective donors and prepares calendar statements. These are approved by the proper committee and the donor and are then submitted to General Faculty Council for inclusion in the calendar and to the Board of Governors for formal acceptance.

The responsibility of keeping the Awards Section of the Calendar correct and up-to-date rests with this office. At present this runs to about 85 pages of print and requires revision each year. This year, for the first time, we will be issuing a separate Awards Calendar which will not contain other information, and we are doing some re-arrangement of material in it. We think this will make it easier for those using it and it should reduce the cost of it.

The University is in receipt of a great deal of information about scholarships and fellowships from various other Universities and donors on this continent and abroad. Our office distributes these to Faculties, Departments or particular members of the Faculty who may be interested. Notices are frequently posted or items inserted in The Gateway.

The Administrator gives what information and assistance he is able to, to students wishing to apply for scholarships elsewhere. We often have information on file and sometimes the application forms.

The Administrator will also do whatever is possible in the way of public relations, either in the promotion of new awards or in explaining to interested persons or groups what is available already.

It is gratifying to note the continuing offering of new awards from private donors and commercial firms. There might have been some fear that, with the greater aid from public funds, others would feel there was not the same necessity for private funds. However, this does not seem to be the case. The recent glare of publicity on education generally, and the realized greater need for higher education in particular, seem to have prompted many new scholar-

ships and bursaries. And, of course, there are those which come to us either in memory of someone and in honor of someone.

In the 1959-60 calendar there were about ten new awards of \$100 or more, in the matriculation and undergraduate fields. We anticipate at least twelve new ones in the 1960-61 calendar. Most of these have come from sources within the Province and range from \$100 to \$1,000. The Steel Company of Canada has just instituted a national plan of bursaries, of which one will come to this University. These are worth \$500 per year for 4 years and include an equivalent grant-in-aid to the University. Against these additions we have lost only about 5 or 6 over the last two years. We are also happy to announce that we anticipate a substantial gift from a commercial firm to set up a revolving loan fund.

In view of the fact that most of the Provincial aid is on a basis of need, we are inclined to suggest to prospective donors that new awards be on a straight academic basis. We do feel that we cannot have too many such awards, to act as an incentive for study and to give, not only honor, but hard cash rewards, for attainment.

Any idea abroad that we have scholarships or money that we do not use, is not true. Sometimes a particular scholarship may not be awarded but usually this is in a case where the conditions of award are very narrowly restricted and a suitable applicant is not available.

In the Graduate Studies area there are also some recent new awards. Notable among these are the Francis F. Reeve Foundation gifts—three bursaries annually of \$2,400 each and six intersession bursaries of \$800 each. Some mention should be made of the new Commonwealth Scholarship Plan, which was set up last year at the Commonwealth Education Conference in Oxford. This plan will cover about 1,000 scholarships for two years study elsewhere within the Commonwealth. All parts of the Commonwealth will be participating. The first applications under this plan are already in process.

A summary of the number and value of awards of all kinds available to students at the University of Alberta (not including Province of Alberta Scholarships) shows the following:

	Awards of \$100 or greater	
	No.	Value (Approx.)
Matriculation	137	\$ 75,150
Undergraduate	172	44,050
Graduate	52	74,500
	361	\$193,700
Honor Prizes of \$50 each, First Class		
Standing Prizes of \$25 and other small		
awards		\$ 8,000 (Approx.)
		<u>\$201,700</u>

(See Appendix No. 1)

These are reasonably well distributed over the various Faculties and Departments. However, as new areas of study open up we will have to be on the watch for awards in them. For example we have just received new awards in the course in Ukrainian but as yet none are available in the course in Russian. We were happy to receive just last week a \$500 scholarship in the new Highway Engineering Program of the Department of Civil Engineering.

The balance of our financial assistance comes from the Provincial Govern-

ment, mostly through the Students Assistance Act which is administered by the Department of Education. The Cultural Activities Branch and the Department of Health also have some programs of financial aid in specialized fields.

The Students Assistance Act was revised and greatly extended in 1959 and the name, The Queen Elizabeth Education Scholarship Fund was given to it. The greater part of the aid under the Act comes to University students. Comparatively small amounts also go to nurses, and to students at High Schools, Vocational Schools, Agricultural Schools and the Banff School of Fine Arts. The various forms of aid under the Act are also available to students in Publicly supported Junior Colleges and to students at other Universities in undergraduate programs which are not given at the University of Alberta.

This year for the first time the Act introduced Province of Alberta Scholarships for the top 300 matriculants entering university and for the top 300 undergraduates, providing an academic standing of 75% or better had been attained the previous year. These scholarships are for a basic \$100 without evidence of financial need and may be increased to maximums ranging from \$600 to \$1,250 in a scale, on proof of financial need. For 1959-60 all 300 undergraduate scholarships were awarded, totalling \$85,245, and 211 of those for matriculants, totalling \$70,470. (See appendices Nos. 2 and 3)

For those below the scholarship level of 75%, there are grants and loans. These are entirely on a basis of need. Grants range from \$100 to \$450 depending on academic standing and a loan up to \$400 is also available, either separately or with a grant. Grants and loans to undergraduates are handled by the University committee, and for 1959-60 will total approximately \$100,000 in grants and \$150,000 in loans to about 700 students. Some 20 of these are at other institutions, but are still processed by our committee.

Grant and loans to matriculants entering university the first time are handled by The Students Assistance Board and have totalled approximately \$38,000 in grants and \$61,300 in loans to 260 students, (some few of which are also at other institutions). (See Appendix No. 4)

The grants and loans in these two areas just mentioned involved nearly twice as many students as in the previous year (from 555 to 960) and nearly twice as much money (from \$193,000 to \$350,000) notwithstanding that some 327 needy students above 75% had already been looked after by Province of Alberta Scholarships. The need was apparently very much greater this year.

The Act also introduced, for the first time this year, aid to students in our own Faculty of Graduate Studies. This consisted of 3 fellowships of \$3,600 each, 10 scholarships of \$2,200-\$2,600 each, 25 tuition bursaries covering actual tuition charged and the provision of grants and loans on a basis of need similar to that for undergraduates but with higher academic standings required. This aid totalled for this year about \$47,600 to some 54 students.

Therefore, if we were to total the amounts in all the various categories already mentioned in this report we would arrive at a figure of about \$750,000. The number of students involved is not as easy to arrive at because of a certain overlapping, but I would estimate 1,750 or slightly more than one quarter of the student body.

There is, of course, in addition to this the aid or more correctly speaking, the subsidization to Faculty of Education students administered directly by the Department of Education. This was available to all first and second year

students and to limited number in the other years. For 1959-60 this covered about 1,500 students and totalled nearly \$600,000.

If we add this to our previous total we would have total financial aid to students at the University of \$1,350,000 with about 3,000 students involved.

Even not including the areas which are administered directly by the Department of Education, this involved the handling of a great many applications and documents and many personal interviews. During the busy seasons the members of the three committees spend considerable time on this work. The system presently in operation appears to be functioning satisfactorily and to be accommodating the continuing increase in the volume. The work does, of course, come in peak loads, but these are fairly well spaced over the year. The Graduate Studies deadline for applications has just been brought forward from April 15 to March 1. In between times there are reports and calendar revision to work on.

It necessarily follows from the above that there is considerable record-keeping (although we try to keep this to a minimum), and also considerable reporting to General Faculty Council, to Convocation and to The Students Assistance Board. We have a staff of two besides myself all year and add another two or three for about six months of the year.

I should like to say, in closing, that I have had the most complete co-operation of everyone with whom I have had contact, on the Administration Staff, in the Faculties and the members of the various committees. And I think I can safely say that our relations with the Students Assistance Board have been on an amicable basis. I should also like to add a special work of commendation for Miss Esther Miller who was the scholarship clerk in the Registrar's Office for many years. She is now on my staff and has been a wonderful help to me during this first year.

It has been a pleasure to be able to present this report.

APPENDIX No. 1

as at February 20, 1960

Scholarships, Bursaries etc. at University of Alberta

\$100 value or greater, not including Province of Alberta Scholarships
(approximate only)

	Number	Total Value	Average
<i>Matriculation</i>	137	\$ 75,150	\$ 550
<i>Undergraduate:</i>			
General	28	8,425	
Arts and Science	35	8,100	
Agriculture	12	2,850	
Commerce	8	1,850	
Dentistry	17	2,550	
Education	18	5,100	
Engineering	22	8,725	
Household Economics	5	700	
Law	1	100	
Medicine	13	3,200	
Nursing	1	100	
Pharmacy	7	1,200	
Physical Education	2	200	
Physiotherapy	3	1,050	
TOTAL	172	\$ 44,050	\$ 255

Graduate Studies:

Education	13	\$ 23,900	
Other	39	50,600	
TOTAL	52	\$ 74,500	\$ 1,430
GRAND TOTALS	361	193,700	

Matriculation Honor Prizes Approximately 50 @ \$50.00	\$ 2,500.00
Undergraduate Honor Prizes Approximately 30 @ \$50.00	1,500.00
Undergraduate 1st Class Standing Approximately 100 @ \$25.00	2,500.00
	\$ 6,500.00

APPENDIX No. 2

as at February 20, 1960

Province of Alberta Matriculation Scholarships—1959-60

Students in first year University of Alberta with Matriculation average over 75%:

Edmonton	270
Calgary	56
	326
Less from other Provinces and presumed not eligible	19
	307
Plus an estimate—at Jr. Colleges in Alberta and at other Universities in courses not given here	10
	317

(Of these approximately 15 are from years previous to 1959 and 8 are in their second session)

Total number of Alberta matriculants in June '59 with over 75%—417 (of total of 2,121)

Scholarships granted to date—211 (as per list below)

This would seem to indicate that about 100 (or 25% of the total) of those over 75% did not go on to University, and that about 90 students who were eligible did not apply for the \$100 scholarship.

Size of Scholarship	Number	Amount
\$ 50	1	\$ 50
100	67	6,700
150	1	150
200	21	4,200
250	9	2,250
300	15	4,500
320	1	320
350	15	5,250
400	21	8,400
450	4	1,800
500	9	4,500
550	4	2,200
600	16	9,600
650	3	1,950
700	7	4,900
750	9	6,750
800	4	3,200
850	1	850
900	1	900
1,000	2	2,000
	211	\$70,470

Loans with
Scholarships

\$ 200	2	\$ 400
250	1	250
300	2	600
400	2	800
	7	\$ 2,050

Above figures subject to change if further applications received.

APPENDIX No. 3

as at February 20, 1960

Province of Alberta Undergraduate Scholarships—1959-60

There were approximately 375 undergraduates in the University of Alberta (other than in the graduating year) with averages over 75%.

This total was reduced to almost exactly 300 by reasons of not being bona fide residents, not returning to University, or simply not applying. A few applications were received from students at other universities with over 75%.

300 scholarships have been granted. Breakdown as follows:

Size of Scholarship	Number	Amount	Univ. of Alta. Faculty	Number	Amount
\$100	116	\$11,600	Arts & Sc.	109	\$28,400
150	10	1,500	Agric.	11	1,770
200	21	4,200	Engineering ...	103	29,575
250	13	3,250	Education	21	6,850
270	1	270	Law	1	300
300	27	8,100	Medicine	16	5,700
325	1	325	Dentistry	9	4,150
350	7	2,450	Pharmacy	9	2,750
400	25	10,000	Physiotherapy ..	2	600
450	19	8,550	Nursing	3	550
500	17	8,500	Phys. Ed.	1	200
550	11	6,050	Commerce	5	1,250
575	2	1,150	H. Econ.	4	1,000
600	21	12,600	M.L.S.	1	200
650	1	650			
700	1	700			
750	5	3,750			
800	2	1,600			
	300	\$85,245	At Other Universities		
Loans given with			Architecture ...	3	\$ 1,100
Scholarships			Vet. Sc.	1	450
\$100	6	\$ 600	Optometry	1	400
150	2	300			
				300	\$85,245
	8	\$ 900			

Above figures still subject to change if there are applications for increases in scholarships already granted.

APPENDIX No. 4

1959-60 Session

University of Alberta Students Assistance Act Grants and Loans

Schedule "B"

(Administered by

University Committee)

Faculty	Grants		Loans		Total	
	No.	Amt.	No.	Amt.	No.	Amt.
Arts and Science	121	\$ 20,746	135	\$ 30,140	155	\$ 50,886
Agriculture	20	3,350	26	6,650	27	10,000
Commerce	24	5,105	22	5,457	28	10,562
Dentistry	25	6,400	27	8,175	29	14,575
Education	31	4,400	66	16,335	68	20,735
Engineering	157	28,845	178	45,963	199	74,808
Household Economics ...	3	600	4	963	4	1,563
Law	22	4,040	21	3,290	24	7,330
Medicine	73	17,810	63	15,655	80	33,465
Med. Lab. Sci. ....	.....	.....	4	900	4	900
Nursing .....	.....	.....	.....	.....	.....	.....
Pharmacy	17	3,260	17	3,485	21	6,745
Physical Education	12	1,830	14	2,695	17	4,525
Physiotherapy	2	200	2	325	2	525
Calgary—Education	6	700	19	6,355	19	7,055
Other	13	1,760	16	2,515	17	4,275
	526	\$ 99,046	614	\$148,903	694	\$247,949
Loans with Scholarships .....	.....	.....	8	900	8	900
	526	\$ 99,046	622	\$149,803	702	\$248,849
At other Universities ...	15	3,000	22	5,970	22	8,970
	541	\$102,046	644	\$155,773	724	\$257,819
Graduate Studies	14	2,875	18	5,190	21	8,065
Graduate Tuition Bursaries	25	5,331	.....	.....	25	5,331
	580	\$110,252	662	\$160,963	770	\$271,215
Schedule "A" (to matriculants administered by Students Assistance Board .....	.....	38,175	.....	61,345	260	99,520
	.....	\$148,427	.....	\$222,308	1,030	\$370,735

Report of Professor A. J. Cook, Director of Student Counselling Services

The original name of the Department was changed early in 1960 to Student Counselling Services. The staff has felt for some time that the present title would more accurately describe the professional services offered by the Department.

Professional Outlines

The June 1959 Conference of High School Counsellors and University Representatives was a pronounced success. A volume of career briefs called *Professional Outlines* was prepared for the use of the Conference by all the Departments, Schools and Faculties of the University. Copies of the volume were placed in all of the high school libraries and in addition each high school

counsellor and principal was supplied with a copy. It is proposed to revise the volume every two years so that it can be kept up to date. Copies of individual outlines are sent out to students on request.

Study Skills

Three voluntary study tutorials were held for new students after the November tests, one per week for three weeks. Over 350 students attended. Two further tutorials were held in January for students whose first term record was deemed unsatisfactory. These were also voluntary and 70% of the group came. 80% of those attending had not attended the November tutorials.

Further development of this plan is being projected for the 1960-61 session.

The Services

The Reading Training Program under the direction of Mr. A. J. B. Hough was carried on during the second term, with the help of a graduate assistant. Training was offered to top quality new students on a voluntary basis and over 75 students attended.

Visits to Provincial High Schools on Career Days as well as special visits to the High Schools in Edmonton and in Calgary were carried out by the staff beginning in late March and extending into the middle of May.

Two panel broadcasts for high school students and their parents were prepared by members of the staff for use in April, on Station CKUA.

The number of interviews in winter and summer continues to grow and at the same time the staff is aware of the need for more follow-up with students than is at present possible.

Staff

Dr. Peter P. Rempel was appointed as from September 1st to replace Miss L. N. Wilson who left the Department to take up full time duties in the Department of Psychology. He came from the State University of Iowa where he had been senior counsellor for four years.

Miss Helen I. McWilliam was appointed full time counsellor at the University in Calgary, commencing duties on August 1st, 1959. Dr. J. G. Woodsworth, who had been part time counsellor at the University in Calgary for some years, returned to full time teaching in the Division of Educational Psychology. Miss McWilliam came to the University from the Provincial Guidance Clinic in Calgary. Heretofore, the Counselling Services in Calgary operated full time from August 1st until the opening of the term; then on a part time basis during the session. Now the Services are on a twelve month basis and Mr. R. D. Hare has been appointed as a graduate assistant to Miss McWilliam during the summer of 1960.

Mr. Arthur Hough is currently carrying forward his prediction studies with respect to the performance of first year engineering students.

Mr. Donald Fair who has for the past three years given a series of lectures to each of the first year classes in the Diploma Course in the University of Alberta Hospital School of Nursing, has been invited on three occasions in the last year to speak on the principles and practices of counselling to workshops arranged by Schools of Nursing. Mr. Fair is now an executive member of the University Counselling and Placement Association.

Report of Dr. J. F. Elliott, Director, Student Medical Services

The 1959 and 1960 term has been a very active one for the Student Medical Services. Increasing enrollment has resulted in a corresponding increase in medical examinations and treatment.

Dr. Adam Little has supervised the Infirmary services with his usual diligence. He has been ably assisted by Dr. A. M. Edwards. Two senior internes from the University Hospital have assisted with sick parades. Dr. M. M. Hutton has acted as consultant in Gynecology. Dr. K. Yonge and his staff have supplied psychiatric consultation services. Miss Revell and her staff have carried out their many duties in their usual capable manner.

Medical examinations were carried out on all first year students. Tuberculin testing of freshman students has been continued with chest x-rays provided by Dr. Stephens and his staff at the Aberhart Hospital. B.C.G. vaccine has been given to Medical students and students in the School of Physiotherapy on their request.

Poliomyelitis vaccine has been available through Dr. M. Little of the City Health Department and many students have been immunized.

The present Infirmary becomes more and more inadequate for efficient sick parade care as student population increases, and plans are again under review for a new Infirmary.

Statistics

	1959-60	1958-59
Doctors' Visits to Infirmary	577	569
Dr. Elliott	28	20
Dr. Little	140	170
Dr. Edwards	119	163
Dr. Hutton	22	21
Internes	268	195
Doctors' Consultations	4,178	4,255
Daily Average	31	22
Doctors' Visits to Infirmary Bed Patients	260	350
Daily Out-Patient Treatments and Consultations	12,626	15,146
Men	8,181	9,486
Women	4,445	5,660
Daily Average	80	80
Gynaecological patients treated	53	48
Psychiatric referrals	45	27

Summary of Infirmary Bed Patients

	1959-60			1958-59		
	No.	Hosp. Days	Ave. Stay Days	No.	Hosp. Days	Ave. Stay Days
Men	75	246	3.2	83	257	3.0
Women	52	180	3.4	34	94	2.7
Total	127	426	3.3	117	351	2.8
	1959-60			1958-59		
Basal Metabolism			38			32
Men		2			4	
Women		36			28	
Haemoglobin Tests			82			56
White Blood Counts			11			16

Urinalyses	3,846	1,961
Cerumen Removal	60	73
Penicillin:		
Patients Treated	173	134
Doses Given	490	467
Autogenous Vaccines		9
B.C.G. Vaccinations	95	
Tuberculin Tests	1,932	1,709
Betalin		2
Polio Vaccine:		
Persons Treated	796	1,318
Doses Given	901	1,721
Prostigmine		1
Special Hay Fever Vaccine	10	6
Staph. Toxoid Vaccine	1	3
T.A.B.T. Vaccine		3
Smallpox Vaccinations	22	22
Tetanus Vaccine	3	1
Gamma Globulin	4	

Students Treated in Hospitals

	1959-60				1958-59		
	Men	Women	Total		Men	Women	Total
University ..	46	25	71		64	28	92
Other	9	2	11		8	6	14
Total	55	27	82		72	34	106

Students' Medical Service Staff—1959-60

Director	Dr. J. F. Elliott
Infirmery Physician	Dr. Adam S. Little
Assistant Physician	Dr. A. M. Edwards
Gynaecologist	Dr. Margaret Hutton
Psychologists	Dr. K. Yonge
	Dr. G. D. Carson
	Dr. W. Forster
	Dr. H. Pascoe
Internes	Dr. David Reid
	Dr. David Gilmour
	Dr. Bruce Henderson

Infirmery

Matron	Miss G. A. Revell, R.N.
Assistant	Mrs. J. H. Ward, R.N.
Relief Nurses	Mrs. Mary Corns, R.N.
	Mrs. Harriett Younie, R.N.
Nurses' Aid	Miss Anne Folden
Cook	Mrs. Abigail Taylor
Housekeeper	Mrs. Dorothy Jones—April only
	Mrs. Anne Costello—from September 28

Report of Mr. Guy H. Vaughan, Radio Director

General Resume

Broadcasting for the 1959-60 season was for the period October 1, 1959 to April 30, 1960.

The same broadcasting hours as in the 1958-59 season were utilized—6:45 to 8:00 p.m., Monday through Friday, and 8:00 to 9:00 p.m. on Saturdays. For the remainder of the year, programs of recorded music were broadcast one hour per day, six days per week.

From May 1, 1959 to April 30, 1960, two hundred and sixty-one recorded

Music Hours were broadcast, as well as 52 Saturday Evening Concerts, making a total of 313 hour-long Music broadcasts during the year.

Following the pattern of 1958-59, Organ Recitals were broadcast once per month during 1959-60, and were included in the regular Music Hour period, that is from 7:20 to 7:45 p.m., instead of extending from 7:35 to 8:00 p.m., as formerly. There were 7 Organ Recitals during 1959-60.

In order to clear more consecutive time for the talks series, now running five nights per week for the entire year, the Western Board of Music Recitals, were moved from 7:35 to 8:00 p.m. on Wednesdays to 2:30 to 3:00 p.m. on Sundays.

Talks Series

For the first time, the summer months of 1959 were used for gathering as much material as possible in the matter of programs and series for the Fall series of talks. This enabled the Radio Committee at its Fall Meeting (September 15, 1959) to have a complete program schedule from October 1 to the end of December 1959. This list of programs forwarded to the Canadian Broadcasting Corporation, enabled that organization to schedule several of our talks in advance and helped considerably in the final total of talks accepted by the CBC during the current year. (See section headed "Distribution of Talks.")

During the current season 134 15-minute programs of talks were aired. Of these regular series, *Science* had 39, *Social Science* 17, *Extension* 11, *Classics* 13, *Men and Letters* 25, and *Two on the Aisle* 21. The remaining programs consisted of the following groups, *Education* 4, *Campus Preview* 2, and *Miscellaneous* 2.

Highlights of the 39 *Science* programs, were various series like *The History of Medicine* (4), *The Scientist in Search of Values* (3), *Metals in the Modern World* (3), *The Lives of Famous Scientists* (4), *Expanding Frontiers in Russian Science* (2), *Brief Sketches in Botany* (4), *Anaesthesia and Tranquilizers* (2), and *Current Events in Geophysics* (3).

In the *Social Science* programs, the Departments of Political Economy and Philosophy were responsible for the following noteworthy series—*The Dilemma of Parliament* (3), *The United Nations—An Appraisal* (3), *Comparative Economics—The USSR and the West* (3), and *Philosophical Perplexities* (3).

In the English Department series, *Men and Letters*, the following series proved popular: *The Novel of Fantasy* (2), *How to Read a Novel* (2), *Can You Be Taught to Write?* (2), and *A Survey of Russian Literature* (2).

The program, *Two on the Aisle*, offering critical opinion of professional music and drama in Edmonton, as well as noteworthy current movies, continued to find a ready audience.

The *Extension Department* was responsible for a series of 7 programs under the general title *Is Communism Dead?*

The following series from the *Department of Classics* brought very good response. *Life in Ancient Greece* (6), *Life in Ancient Rome and Life Today* (3), and *Learn Latin and Learn English!* (3).

As is customary each year, two 15-minute programs dealing with matters of interest to prospective students, were also broadcast. These programs, under the general title, *Campus Preview*, were arranged and aired by staff members of the Student Counselling Services, and will be forwarded to other stations in Alberta for re-broadcast.

In addition to the above, during the month of April 1960, four 15-minute programs (three individual talks and one panel discussion), arranged by the *Faculty of Education*, were broadcast.

Distribution of Talks

A considerable increase was noted this year in the distribution of University Talks to other stations. In the following list, talks are of 15-minute duration unless otherwise indicated. Also, in the case of the Canadian Broadcasting Corporation the letters TCN and WN stand for Trans Canada Network and Western Network respectively.

<i>Canadian Broadcasting Corporation</i>	$\frac{1}{2}$ -hours Programs	10 & 15 min. Programs
University of the Air—10:30 p.m.	11 (TCN)	
University of the Air— 9:30 a.m. (repeat)	10 (TCN)	
University Talks		16 (WN)
Post-news Talks (10-min.)		23 (TCN)
Critically Speaking (10-min.)		4 (TCN)
Prairie Talks		5 (WN)
Science Review		1 (TCN)
CBC Wednesday Night		1 (TCN)
Total (CBC)	21	50

In addition to the preceding, the following talks were distributed to *Private Stations* in Alberta:

	$\frac{1}{2}$ -hour Programs	10 & 15-min. Programs
CFRN—Edmonton		10
CFRN—Edmonton—Students Panel	7	
CJCA—Edmonton		13
CFAC—Calgary		22
CJOC—Lethbridge		32
CFCW—Camrose		45
Total	7	122

Revenue From Tape Distribution

For the first time, during the latter part of the 1960 season, revenue, in the form of a Tape-Production fee, was obtained from the distribution of tapes. A total of \$280.00 was collected from all stations on the basis of \$4.00 per tape in Edmonton—\$3.00 per tape in the larger centers—and \$2.00 per tape (depending on quantity) in other centers.

The discrepancy between the amount collected and the total distribution of tapes is due to commitments made prior to the decision to charge a production fee for the tapes.

Morning Programs Over CKUA

The experiment successfully launched in 1957-1958 of repeating some of the University's best talks of the regular evening series at 11 o'clock each morning over CKUA during March and April, was continued this year with equally gratifying results, thanks to the generous co-operation of the management of CKUA. Forty-five programs were rebroadcast this year.

Advertising and Promotion

Once again, 10,000 pamphlets in the University colours and covering the over-all programming schedule were distributed to Edmonton homes. The

pamphlets, in addition to general program information, gave the University Radio Service address and phone number, with a suggestion to join the University's regular mailing list for program schedules. Responses to this suggestion was gratifying, since our mailing list has increased from 3,000 in October 1959 to the current mailing list of 3,250.

Weekly advertisements (2-column 3-inch) were placed in *The Gateway* between January and March 1960.

In the line of daily promotion for our talks programs, CKUA has been most co-operative, airing each of our daily talks (the pertinent facts) four or five times and sometimes more daily.

Student Radio Society

The Student Radio Society, with an active membership of forty-five, broadcast a varied program of music, interviews, campus news and sports on Saturdays from 5:00 to 5:30 p.m. under the direction of President, Ron Newman.

Announcers-Operators

Don Giffen served as chief announcer of Radio Service, with Doug McDonald and Kerry Henderson, who completed the staff of announcer-operators.

Report of Professor R. S. Eaton, of the Western Board of Music in Alberta

1. Statistics (Candidates and Fees)

Candidates:	February	May	June	Total
Practical	180	.....	1,286	1,466
Theoretical	438	590	.....	1,028
				2,494
 Fees:				
February				\$1,733.50
May and June				7,416.00
				\$9,149.50

This shows an increase of 163 candidates and an increase in fees of \$441.05.

2. Revenue from the Sale of Theory Papers (December 1, 1958, to November 30, 1959)—\$132.73. This shows an increase of \$31.00.

3. Centres

(a) Practical:

February, 1959: Calgary, Edmonton, Lethbridge and Red Deer.

June, 1959: Banff, Blairmore, Bonnyville, Bowden, Calgary, Castor, Chauvin, Dawson Creek, Eaglesham, Edmonton, Falher, Fort Kent, Girouxville, Glendon, Grande Prairie, Hythe, Innisfail, Lethbridge, McLennan, Medicine Hat, Peace River, Pincher Creek, Ponoka, Red Deer, St. Paul, Sexsmith, Spirit River, Sundre, Wetaskiwin.

(b) Theoretical:

February, 1959: 36 centres.

May, 1959: 47 centres.

4. Examiners for Practical Examinations

February: Mr. Filmer Hubble, Winnipeg; Mrs. W. G. Egbert, Calgary; Capt. Harry Wragg, Mr. Thomas Rolston and Mr. Arthur Crighton of Edmonton.

June: Mr. Ross Pratt, London, Eng.; Miss Dorothy Bee, Regina; Mr. Georges Lindsay, Montreal; Mrs. Eileen Higgin, Miss Mary Hughes, Miss Sandra Munn and Mr. Leonard Leacock of Calgary; and from Edmonton—Miss

Catherine Wendol, Mrs. Dorothie Langmo, Mr. Hugh Bancroft, Mr. Robert Pounder, Capt. H. Wragg and Mr. T. Rolston.

5. *Diplomas Granted*

Spring Convocation: A.Mus. (Piano): Vivienne Wilda Rowley; (Violin): Francis Edward Dunnigan.

Fall Convocation: L.Mus. (Piano): Marilyn Neubauer; A.Mus. (Piano): Judith Hamilton, Joyce Nelson; (Clarinet): Ernest Dalwood

6. *Broadcasting (from January 7, 1959 to March 25, 1959)*

On January 7, Mrs. Marguerite Marzantowicz began the 1959 series of broadcasts, illustrating the Western Board of Music syllabus, with a violin recital. Following this, Miss Doreen Stanton, pianist, Mrs. Suzanne Welsh Gibson, organist, and Mrs. Dorothie Langmo, violist, completed the January broadcasts.

Mrs. Jocelyn Pritchard, pianist, presented the first February program and Mr. Kenneth Hopkins, trumpeter, performed on February 11. On February 18 and 25 respectively, Mrs. Lillian Upright, pianist, and Mr. Ernest Dalwood, clarinetist, illustrated music for their instruments.

On March 4, Mr. Edgar Williams demonstrated violin works and on the 11th a talk on theory was given by Professor Arthur Crighton. He gave special emphasis to the development of ear-training and interspersed his remarks with piano and vocal illustrations. Two fine piano broadcasts on March 18 and 25 by Miss Anne Burrows and Miss Hope Hattersley completed these broadcasts.

Mr. Arthur Crighton accompanied all soloists—string and wind instruments.

7. *Recitals*

As in other years, recitals of award winners were held by the Western Board of Music throughout Alberta in the fall of 1959. The first—of five—was held in Grande Prairie on November 6 with Mr. G. K. Greene of the Department of Extension as chairman and Miss Vivienne Rowley, pianist, of Edmonton as guest artist.

On the 13th of November, recitals were held in Red Deer and Lethbridge; Mr. Eaton acted as chairman in Red Deer and Mr. Crighton in Lethbridge. There were two guest artists in Red Deer, Miss Jane Bolton, soprano, and Miss Bette Joan Rac, pianist, both from Edmonton. Miss Patricia Colvin, pianist, of Calgary performed in Lethbridge.

On November 23rd in Calgary and November 27th in Edmonton, recitals were held with Professor Eaton presiding at both. The guest artist in Calgary was Dennis Ball, pianist, of Edmonton, and in Edmonton, Miss Irene Weiss of Cardston.

Presenting awards and giving a short talk to the young students were the following: Mr. N. D. McFarlane in Grande Prairie, Mr. Willard Taylor in Red Deer, Mr. Arthur Balfour in Lethbridge, Mr. Frank Churchley in Calgary and Dr. L. H. Cragg in Edmonton.

8. *Awards*

Scholarships, Bursaries, Prizes and Medals

The 1959 awards again totalled around \$5,000.00.

The donors in Alberta were in the majority as usual but we were again privileged to be able to offer the Peabody String Scholarship for tuition, now

valued at \$690.00. Unfortunately, once again no candidate qualified. A few small prizes were not awarded because of unfulfilled conditions.

New Awards

A scholarship of \$100.00 was offered for the first time by the International Chemical Union (Local 465) of Calgary.

The Glendon Women's Institute commenced a prize award of \$5.00.

Report of Lt.-Col. J. H. Whyte, Commanding Officer, The University of Alberta Contingent, Canadian Officers Training Corps

During the academic year 1959-60 the officers of the Contingent were Lt. Col. J. H. Whyte, Major H. R. Hawes and Major C. Heath. The Honorary Colonel was Col. H. A. Dyde, O.B.E., M.C., Q.C.

On 15 Nov. '59, Capt. J. R. Murray was struck off strength on transfer to the Supplementary Reserve. On 27 Nov. '59 Major C. Heath was taken on strength on transfer from the Militia to COTC.

On 1 Sept. '59 Captain R. D. Gross, Lord Strathcona's Horse (Royal Canadians) was appointed University Support Officer (Army). The USO (Army) replaces the former Resident Staff Officer.

During the summer of 1959, 23 Officer Cadets and Second Lieutenants completed practical phase training at various corps schools across Canada. In addition three Second Lieutenants received summer training with 4 Canadian Infantry Brigade Groups in Germany.

The COTC first year enrolment quota of nine was established by Army Headquarters. Seven first year Cadets were actually enrolled. In addition seventeen first year Cadets of the Regular Officer Training Plan, one Medical Subsidized Officer and two RMC Graduate Year Officers started their training with the Contingent.

The Theoretical Phase Training was unchanged from last year.

The Contingent participated in the following university activities: Remembrance Day Service and Varsity Guest Weekend. Social events held were the Tri-Service Smoker, the Tri-Service Ball, and the Annual Mess Dinner.

The Theoretical Training Phase was extremely successful.

Report of W/O B. E. Riedel, Commanding Officer, University of Alberta Squadron, R.C.A.F.

The University Squadron continued to be very active during 1959-60. The changes in regular force support personnel which were instituted last year were reversed and adequate support was given during 1959-60.

The staff of reserve officers consisted of W/O B. E. Riedel, Commanding Officer, S/L A. B. Crighton, Chief Training Officer, F/L F. D. Blackley, Chief Administrative Office, F/L R. H. Common, Assistant Administrative Officer, F/L F. R. Anton, Administrative Officer at Calgary. Regular force support was given by F/L R. A. Schoales and Cpl. G. D. Currie.

F/L Common has resigned his post with the squadron as he is leaving the University. The squadron was sorry to see him leave.

Recruiting continued to be encouraging. Students appearing at the University who had been pre-selected by the Armed Forces into the Regular Officer Training Plan numbered 15. In addition 8 cadets were enrolled under

this plan during the academic year by the squadron. Fourteen cadets were enrolled in the University Reserve Training Plan, including 4 cadets in Calgary.

It is anticipated that 25 of the senior cadets will be graduating in May 1960. Of these, 14 are ROTP or Serving Airmen and will be continuing their career with the services; one pilot, two observers, 11 technical officers are in this group. The graduands who are U.R.T.P. are commissioned as Flying Officers in the reserve.

The winter training program consisted of sixty-four hours for each year which was carried out on Wednesday evening of each week in the lounge and lecture rooms of the gymnasium. Special features were two sports evenings and special guest lecturers from University staff and R.C.A.F. officers.

Two mess dinners were held at R.C.A.F. Station Namao. The second Ceremony of Inspection was held in the gymnasium. The R.C.A.F. Training Command Band was in attendance. President Walter H. Johns shared the honors of the salute, inspection and presentations with G/C Chapman, Commanding Officer, R.C.A.F. Station Penhold. A coffee party was held in the Wauneita Lounge following the parade. Mrs. C. C. W. Marshall, Mrs. W. H. Johns, Mrs. J. H. Whyte and Mrs. B. E. Riedel poured coffee. Relatives and friends of the cadets were invited to this ceremony and coffee party.

Other events in which the squadron participated were the November 11th program, a Tri-Service Smoker at H.M.C.S. Nonsuch, the Tri-Service Ball, and the annual band concert featuring the Training Command Band.

The R.C.A.F., through the University Squadron, arranged for four of the staff of the Physics department to be flown to R.C.A.F. Station Cold Lake where they observed the application of a computer to R.C.A.F. problems. A similar tour was arranged for a number of staff to R.C.A.F. Station Comox on Vancouver Island. Eight University staff spent two days at Comox and enjoyed an interesting flight by R.C.A.F. aircraft to and from the Station. The Director of the Boreal Institute toured the far north on an eight day trip with the R.C.A.F. resupply program.

The Reserve Officers School will again be held at College Militaire Royal, St. Jean, P.Q., during May and June, 1960. Female cadets will attend a similar school at Centralia, Ontario. Four cadets have been selected for posting to bases in Europe during the summer. The remaining members of the squadron will serve with the R.C.A.F. at stations throughout Canada.

Report of Lt./Cdr. R. S. Van Alstine, R.C.N.(R.), Commanding Officer, University Naval Training Division

The University Naval Training Division commenced its winter activity on the University of Alberta campus with an active recruiting campaign during late September and October. In all there were twenty-five applicants, of which seven were finally brought into the Service with the confirmed rank of Cadet, RCN(R).

In addition to the seven first year UNTD cadets, the over-all complement of the UNTD was increased by four cadets who were enrolled during the summer of 1959 under the terms of the Regular Officer Training Plan. The complement of the tender now stands as follows:

Officers—5

Cadets RCN—7

Cadets RCN(R)—17

The above complement represents an increase of four cadets over the preceding year's complement.

A new winter training syllabus was supplied by the Commanding Officer Naval Divisions at Hamilton, Ontario for use during the winter training period. The training programme was successfully completed on the 28th of March. The new training syllabus, which was used in all University Naval Training Divisions across Canada, detailed the courses to be given to cadets. A breakdown of these courses is as follows:

First Year Cadets	Second Year Cadets	Third Year Cadets
Parade Training	Parade Training	Parade Training
General Indoctrination	Naval Leadership	War Course
Seamanship	Naval History	Administration
Flashing (Morse Code)	Seamanship	Communications
Semaphore	Communications	Special Lectures and
Navigation	Supply and	Projects
	Administration	
	Engineering	
	Navigation	

The above courses represent a combined total of forty-eight hours of instruction received by all cadets over the training period. Each cadet was required to submit a critique on the training programme at the close of the period. These critiques revealed that, in general, the cadets found the courses interesting and of good value and that the Naval training programme was not overly arduous.

During the course of the winter, extra activities included:

1. November 11th Parade
2. Gunroom Parties
3. Tri Service Military Ball
4. Tri Service Military Smoker
5. Inspection by the Commanding Officer Naval Divisions.

Twenty-two of the twenty-four cadets in the University Naval Training Division will be undergoing Naval Training during the summer months at fleet establishments on both coasts and at sea. Some of the officers on the training staff will also be performing Naval Training during some part of the summer.

Report of Mr. D. D. Campbell, Director of the Department of Extension

I have the honour to submit the forty-seventh annual report on extension activities of the University for the year ending March 31, 1960.

Members of the staff of the University report a continuing association with the public, both urban and rural. During the past year some 2,230 lectures and demonstrations were presented to an estimated total audience of 85,000. Well over 200 radio or television appearances served to establish a link between the people of Alberta and their University.

While these figures are impressive, they do not tell the whole story. Faculty members are generous in many fields of cultural enrichment and community betterment. Aid to the Edmonton Symphony Orchestra, the Western Board of Music, adjudication at all levels of choral and dramatic productions, assistance in advising, conducting and administration of the large number of professional societies and cultural groups, guidance in physical fitness and athletic endeavors—all these come within the scope and enthusiasms of members of the University's staff. A vast correspondence is handled by many, advising and counselling those who turn to the University for authentic information and impartial

advice. In these ways, the University plays a vital role in the daily life and aspirations of a large portion of our province's population.

Acknowledgment should be made here of the generous giving of time extended by members of the staff and a number of prominent business and professional men and women. Advisory committees are invited to consider and plan prospective educational offerings and later to assess their results, thus giving invaluable help to setting standards in keeping with the reputation of the University.

Short Courses, Evening Classes and Conferences

A glance at Table I reveals the extent and diversity of the short course, evening class and conference program arranged by the various divisions of University Extension, more detailed reports of which appear elsewhere in this report.

The program of non-credit evening classes continued to expand in both Edmonton and Calgary, although its development was limited in Medicine Hat and in Lethbridge. A more varied program was offered in the two main centres; total enrolment rose substantially and the standard of work achieved in these classes continued to improve. Many aspects of these programs are worthy of comment, but of especial interest is the series of language courses offered in Edmonton. In addition to regular courses in Conversational French, Spanish, Italian and German, University Extension offered highly successful courses in Ukrainian, Russian, Polish and English Conversation and Pronunciation. For the first time advanced courses were offered in some of these language topics and, also for the first time, use was made of the University's Language Laboratory in the extension program. These facilities proved of considerable value to students—especially to those who followed the course in English Conversation and Pronunciation—a training project that has been developed for those new Canadians with a grasp of the fundamentals of English but who wish to improve their spoken command of the language. The program of non-credit evening classes, with its emphasis on longer and more intensive work and increased student participation, represents an increasingly important area of activity within the Department.

The program of short courses and conferences for Business, Industrial and Professional Groups, and especially that section that relates to the development of longer term Certificate Courses is of increasing significance. During the year under review student groups were working on Certificate Courses in Social Welfare, Real Estate, Municipal Administration, Municipal Assessment, Accountancy and Personnel Administration. The course in Personnel Administration represents a useful addition to the program for this year. This first series of meetings affords an introduction to various aspects of Personnel Administration and it is hoped that in the second and third year studies, class members will acquire a basic knowledge of this increasingly important subject. Arrangements for this course have been developed in collaboration with the Edmonton and Calgary Personnel Associations, and the program is directed by an Advisory Committee including representatives of the University's Faculty of Commerce.

Further expansion of the program for industry and commerce are represented by the courses Retailing Principles and Practice and the Industrial Relations Seminars held in both Edmonton and Calgary in October, 1959.

It is a pleasure to record our appreciation of the advice, collaboration and

assistance proffered and accepted by the business community and in particular by the Chambers of Commerce and the Canadian Manufacturers' Association.

Mathematics and the sciences have been given fresh emphasis this year. For the first time programs were offered in Numerical Method, Computer Programming and Engineering Mathematics and these will be followed by similar series in the future. These courses will represent a useful opportunity to adult students—many of them graduates—wishing to improve their qualifications in the engineering fields. Courses in 'Photo Interpretation for the Petroleum Industry' and 'Applied Photogrammetry and Airphoto Analysis', instructed by ranking specialists drawn from across the continent, illustrate the role of the University in providing post-graduate level refresher courses for professional staff. By way of contrast, the Calgary and Edmonton evening class on 'An Introduction to Theoretical Physics' suggests an approach by the University towards interpreting University studies to students just preparing themselves for higher education.

In addition to the activities outlined above and in later sections of this report, members of the Department as individuals and the Department as a whole have been involved in a variety of other projects of importance to individuals and organizations across the Province. These projects range from major assistance to the Alberta Adult Education Conference, which seeks to facilitate the development of adult education within the province, to our continuing collaboration with the I.O.D.E. and the Hazel Robinson Memorial Committee in the administration of creative writing competitions, to the preparation and development of study discussion courses in 'Aging is Everybody's Business' and 'Canada and World Affairs' in conjunction with the Alberta Women's Institutes, and to cooperation with the Banff School of Fine Arts in presenting its performances in Edmonton.

Agricultural Extension

Leadership Training

The Department's five-stage program of leadership training, from the Farm Young People's Week to the Western Canadian Farm Leaders' Conference, enjoys the enthusiasm and generous financial support of the farm people from across the province.

The 41st Annual Farm Young People's Week, arranged for 104 young farmers, was strengthened by more concentrated work in several fields.

The Leadership Techniques Short Course continues to provide a most valuable 'working' training course for rural leaders. Although harvest conditions were poor, 73 persons made application to attend of whom half were selected. The Rural Leadership Conference, a two week residential project with emphasis on socio-economic problems, now held annually in early March, makes a well-worthwhile contribution to the forty Alberta farm leaders who attend. It is doubtful if there is a greater need among farm leaders than for the assistance this Conference offers.

The Second Annual Western Canadian Farm Leaders' Conference was fortunate in securing the services as consultants of Dr. W. J. Anderson, Chairman of the Department of Agricultural Economics at U.B.C., Dr. E. J. Tyler of Brandon College, Professors E. J. Hanson and G. R. Davy of the University's staff and Dr. W. M. Drummond of the federal Department of Agriculture. This week-long residential meeting is limited to twenty-five senior farm leaders at the policy making level. That it fills an important need is evident from the

generous support which it receives and the earnestness and high level of its deliberations.

Publications and Advisory Service

Research publications prepared by the Faculty of Agriculture and completed during the past year include: Rocky Mountain House Soil Survey, Swine Production in Alberta, Sheep Production in Alberta, 1959 Feeders' Day Report, 1960 Press Bulletin, Handy Record Book for Swine, List of Agricultural Publications of the University of Alberta, Chemical Control of Couch Grass and seven Insect Information Leaflets.

In order to make printed materials on non-technical subjects available to farmers, a series of 'Extension Papers' has been established which included as subjects this year "Vertical Integration", "General Trends of Farming in Western Canada", "The Changing Rural Environment", "How Well Off Are Western Canadian Farmers?", "Implications for Rural Extension Research and Training". The publication "The Development of Producer Marketing Boards in Canadian Agriculture", a major publication prepared by L. E. Poetschke and Wm. Mackenzie, was also reprinted this year. Another new series of publications—a collection of "Leadership Papers"—was also instituted this year. The first titles to be issued in this series were as follows: Guide for Judging Public Speaking, Public Speaking Judging Chart, Chairmanship, Parliamentary Procedure and Evaluation of Programs and Activities of an Organization. This new series will be of help to rural groups and organizations which have requested them.

During the past year, a wider distribution of agricultural publications has been offered through:

- (a) Press releases were prepared and sent to all radio stations, T.V. stations, daily newspapers and agricultural magazines and papers.
- (b) Listings of all publications were made in the monthly 'Selected List of Recent Agricultural Publications'.
- (c) A large bulk distribution was made through non-commercial organizations, i.e. V.L.A. and F.U.A.
- (d) A booklet 'Agricultural Publications of the University of Alberta' was prepared.

It is interesting to note that in 1958-59, 1,830 publications were distributed to requests and inquiries, in 1959-60 the number of publications distributed in reply to direct requests was 2,472 copies.

Distribution of the monthly 'Selected List of Recent Agricultural Publications' was initiated just over a year ago and it has been well received by the farmers and fieldmen throughout the province. The mailing list has grown from 60 to 400 in the past twelve months.

During the past year there has been a substantial increase in the number of requests for information on technical agriculture, leadership materials and horticulture.

Referral of written requests, chiefly to experts with the University, telephone calls and office calls to the proper sources of information are part of this advisory service.

Evening Classes and Courses

As a follow-up to the extensive evening program of gardening classes

implemented last year, a total of seven classes were arranged during the year in Edmonton, Calgary and Medicine Hat.

A correspondence course in the fundamentals of 'Farm Record Keeping' has been developed and will be ready for distribution in the coming year.

The Agricultural Secretary, working in cooperation with the Ontario Agricultural College, is making available a three-year Correspondence Course in Horticulture to residents of Alberta.

During the past year considerable assistance has been given to the newly organized Farmers' Union and Cooperative Development Association through workshops and seminars sponsored by this organization. It is a particular satisfaction to record the financial support and close cooperation of the major farm organizations of the province.

Extension Library

Once again the Extension Library has had a very busy year. Total circulation of books for the twelve months ending March 31, 1960, was 178,248, an increase of 25,838 over 1958-59. Details of circulation are presented in the accompanying Table II.

The heaviest increase was in the Open Shelf service, i.e. parcels of books sent by mail to individuals and families throughout the province who do not have access to public libraries in their own communities. The number of adult books sent increased by over 23% from 65,938 to 81,549; the number of children's books by about forty per cent from 35,544 to 49,944. Though books were used to capacity, during the winter there was a long waiting list of new applications from children and young people.

Requests for Travelling Libraries have, on the other hand, declined somewhat during the year. This is a reflection of the priority in service given to families and adult organizations rather than to schools. It should be noted as well that the Open Shelf service has been free and permits the selection of specific titles rather than a general selection typical of the Travelling Library service. Monthly or occasional parcels of books chosen from the Open Shelf can meet specific needs more promptly and adequately than can a general selection of books in a Travelling Library. For example, during the year one small library borrowed books on marriage, the history of the Catholic Church, fundamentals of radio, how to build motor scooters, a guide to book selection for the librarian's use and a monthly selection of new mystery stories. Another library borrowed a guide to books for young people, a collection of plays for high school students, books on coin collecting, raising pigeons, the history of western philosophy, amateur radio, electricity, adoption and dinosaurs' footprints. Open Shelf books are returned when no longer needed and become available for another borrower, whereas Travelling Libraries are usually held three months, regardless of use. Travelling Libraries were sent to 180 different community groups—schools, churches, camps and other organizations—and to study groups in art, music and drama throughout the province. As usual, books were provided for students of non-credit evening courses offered by the Department of Extension and for the summer session of the Banff School of Fine Arts. Displays were prepared for the annual Adult Education Conference in Banff, Farm Young People's Week and Varsity Guest Weekend on the University Campus. Other publicity is limited.

One thousand, five hundred and fifty reference questions were received during the year, in addition to a large number of informal inquiries about

addresses of organizations, publishers, prices of books and so on, of which no record is kept. Included were many requests for information on the United Nations, English literature and various aspects of Canadian history, life and culture. Other requests ranged from the care and training of beards, "mussell-building" and advanced baton twirling to the International Court of Justice and prospects for world peace.

A new edition of the printed catalogue of books in the collection, last issued in 1953, is being prepared. The fiction section was distributed in 1958, and during the past year the biography section and the history and travel section were issued. In preparing these catalogues, it was necessary to weed the collection, and as a result the total number of books declined; 4,661 new books were added, over 6,000 badly worn or out-of-date books were discarded. Although the book stock numbers only 48,101, the resources of the Library are in fact much larger, since the collections of the Rutherford Library and the Edmonton Public Library are available. The assistance and cooperation of the staff in these two libraries is much appreciated.

The Library was fortunate to be among those receiving a copy of the 'Atlas of Canada' presented by the Richardson Century Fund to commemorate the hundredth anniversary of James Richardson & Sons Limited. Also, many readers sent unsolicited gifts of books or money. One enclosed \$5.00 with a note: "I wish it could be larger. The value of such a library is impossible to estimate. We appreciate getting so many good books".

While increased circulation has meant heavy demands on the staff, they are encouraged by many letters of appreciation. Typical remarks are: "I do appreciate so much what your services have meant to my children. It proves it out in the classroom; their teachers tell me so." "We enjoy the books immensely and your staff is such a marvelous help with personal requests. We are certainly fortunate to have such a wonderful library." "I find my membership in your library is my greatest joy." "I have appreciated your excellent and helpful service more than I can express. Congratulations to you and your Department for assisting so many throughout the Province to have beneficial and enjoyable reading, which would otherwise be unavailable."

Visual Instruction Division

The activities of this Division are continuing at a high level and as Table III indicates, for the third successive year, sound film circulation shows a gain. Circulation of silent films however has declined but there has been a considerable increase in the number of times the films were shown and the consequently larger viewing audiences. Use of slides still follows a downward trend but an increase of over 10% in filmstrip circulation is noted.

The Division's services cover a variety of activities of a special nature. Blocks of films have again been supplied to the Edmonton and Grande Prairie Film Councils and the Edmonton Area Film Federation on a long term basis. The number of schools using the Division's facilities in purchasing filmstrips for their own libraries shows no signs of abating. In addition the Division handled the incoming and outgoing of all films used by the Edmonton Film Society and the Medical Undergraduate Society. The use of visual aids in Extension courses and by members of the Department for lecture purposes has surpassed that of last year.

Besides adding new material to the library each year, we replaced popular subjects that have been worn out. Last year sixty new subjects (52 in 16 mm.

sound and 8 in 8 mm.) were purchased and 16 titles (14 in 16 mm. sound and 2 in 8 mm.) were replaced. As requests for colour material are increasing, special efforts are being made to meet this demand. About 60% of our film purchases and over 80% of our filmstrip purchases are now in colour.

A most welcome addition to the library has been a large block of films from the United Kingdom Information Service, provided through the Canadian Film Institute on a loan basis. Last year 94 subjects were received in this block and further additions are being made from time to time. A steady program of catalogue revision is maintained.

To a greater extent than ever, this staff is indebted to the National Film Board and the Canadian Film Institute for their cooperation. The assistance received from these organizations is of considerable help in our work and is much appreciated.

Fine Arts Division

Music

University Extension in Music has reached into new areas of music training this past year. One area involves a course in music appreciation for business people offered in a downtown auditorium in Edmonton at noon hours. For twenty weeks enthusiastic students have been nibbling a sandwich while an instructor offers insights into music history, the orchestra and basic musical forms. This series has been received so heartily that it will be continued in future years.

Several 'out-back' communities have received courses in Choral Singing and Conducting as a result of a new approach to the ten-week Choral Workshop idea. Classes are held on three consecutive nights rather than the usual one meeting a week. The instructor has a minimum of travelling with this arrangement and has the added advantage of being available for daytime consultation with school teachers and choir leaders. Five courses of this nature are being held this season.

Choral Workshops are offered as widely as available staff will allow. The demand always exceeds our ability to meet it. Ten week classes have been organized in Canmore, Hardisty and Nanton. Two courses in Vulcan and Calgary have been extended to twenty weeks.

Guest instructor Hugh Bancroft taught a ten-week course in Free and Invertible Counterpoint to Edmonton teachers last fall to help them meet the new counterpoint requirements of some examination boards. Two classes for concert goers and record collectors entitled "What to Listen for in Music" and "Great Music" have been arranged this past winter. Three lecture recitals on "Beethoven through his Piano Sonatas" by Boris Roubakine were sponsored in both Calgary and Edmonton.

The Massed Choir Festival which brought community choral groups from rural Alberta together last year in Edmonton was held in two sections, one in Calgary and one in Edmonton this year. The emphasis was less on music for massed choirs and more on the performance of individual groups. Ten choirs with about three hundred singers joined the Edmonton Festival while twelve choirs with about four hundred singers joined the Calgary festival. Each participating choir was auditioned to ensure a certain standard of performance. Whatever that standard, it will be much higher in twenty years with the help of annual Festivals of Choirs.

An activity of especial interest was the series of four Summer Concerts

offered in collaboration with the Edmonton Symphony Society during the period of the University Summer School. From the very start it was evident that the series was arousing keen interest in the community and over 300 people attended each of the first three concerts—building up to a climax at the last concert when a capacity audience of over 700 people assembled to hear a performance of Haydn's "Creation". It is planned to offer a similar series again in 1960 as part of a more extensive Summer Festival of the Arts and this may very well be an important addition to our regular annual program. In addition to this successful collaboration with the Edmonton Symphony Society, we also worked with the Society in arranging three out-of-town concerts at the end of its 1959 season.

Drama

As in past years a considerable amount of time has been devoted to assisting the Alberta Drama League with its two main projects: the Provincial One-Act Festival and the Alberta Regional Festival. Approximately 243 individuals participated in the 20 productions entered in the two Festivals. There is no doubt that the work of the Extension Specialist with these two festivals represents a necessary and important contribution to the development of theatre in the province.

Training programs in Directing, Acting, Drama, Voice and Speech, and Child Drama were offered in Medicine Hat, Lethbridge, Edmonton, Westlock, Peace River, Dixonville, Red Deer, Calgary, Stirling and Waterton Park to a total of 514 students in 167 teaching hours. Instruction on these courses was in the hands of Miss Nelson with assistance from two guest instructors, Mrs. Freda de Branscoville of Edmonton and Mr. Brian Way of London, England, for some sections of the program. The assistance of these experts as part-time instructors was of great value to our groups and their classes were received enthusiastically.

In addition to the training program, many requests for information demonstrations, talks and rehearsals from groups as far apart as High Prairie and Waterton Park were met by the Specialist, who also acted as adjudicator in many local dramatic festivals held in various parts of the province. A total of 689 people took part in these informal activities.

Painting

The program of Community Art Classes continued to represent the major element in this section of University Extension's annual program. Two hundred and twenty-three classes were held in 29 communities with a total enrolment of 589 students. Most of the instruction to these classes was undertaken by the Extension Specialist, Mr. Harry Wohlfarth, but valuable assistance was also rendered by Miss Janet Middleton, Miss Joan Byrne, Miss Margaret Staples, Mr. B. Oldrich, Mr. B. W. Luttmer and Professor Allison Forbes. As in past years the instruction by the Extension Specialist or guest instructor alternated with classes held under the instruction of local supervisors, who contributed a considerable amount of time and effort to securing the success of the local program.

Many of these local instructors attended two short courses for senior students held in Lethbridge and Edmonton in May, 1959.

As the program develops and students gain in experience, exhibitions of students' work become ever a more important part of the program. This year,

in addition to local showings in sixteen Alberta Communities, there was assembled a travelling exhibition that was shown at the Academy of Fine Arts in Munich, Germany, in June, 1959, and a further selection of eighteen paintings was shown at the University of California at Berkeley.

During the summer of 1959 the Extension Specialist delivered papers at the Universities of Munich, Bonn and Berlin and at the Art Academies at Munich and Dusseldorf. This visit to Europe provided unusual opportunities for research in Italy, Germany, and France.

Petroleum Industry Training Service

The Petroleum Industry Training Service, which is supported by the Canadian Petroleum Service, the Canadian Association of Oil Drilling Contractors and the Alberta Oil and Gas Conservation Board, has as its purpose the training of oil industry personnel. Courses are prepared with advice from a Production Training Committee and a Drilling Training Committee drawn from the industry, and the organization as a whole is under the direct guidance of an Advisory Committee.

During the year under review, 705 employees attended 31 schools offered throughout the province and in Saskatchewan. Courses offered included Supervisory Training, Battery Operations, Field Handling of Natural Gas, Drilling Technology Schools, Production Technology Schools, Drilling Rig Operations and several short courses on safety subjects. A highlight of the year's activity was the inauguration of a correspondence course for Gas Plant Operators, which is proving to be of very great value to employees new to this section of the industry.

In spite of a recession throughout the industry, which led to a substantial cut in grants and necessitated a reduction in staff, the Petroleum Industry Training Service had a productive and well-supported year.

Public Administration Training Division

The Public Administration Training Division offers two certificate courses, each of three year's duration. They are designed to provide assessors and administrators with a background to local government and training in the fields of municipal assessment and municipal administration.

In October, the Division began its second year of instruction, with classes made up of first and second year students in each of the Municipal Assessment and Municipal Administration courses. The programs are handled by two lecturers, each dealing with one of the courses. Registration for the current academic session shows 66 first year and 85 second year students in the Municipal Administration course, 33 first year and 95 second year students in the Municipal Assessment course.

The program operates on a correspondence-seminar plan. Each year there are approximately twenty comprehensive lessons prepared by staff and experts in the field. These lessons, together with texts, statutes and other reference materials are forwarded to the students. During the academic session the lecturers meet the students in twelve centres throughout the province: in Lacombe, Calgary (two seminars), Pincher Creek, Lethbridge, Medicine Hat, Sedgewick, Hanna, St. Paul, Thorhild, Peace River, Grande Prairie and Edmonton (four seminars).

The seminars provide the students and instructors with opportunities to discuss questions, problems and theories arising out of the prepared material

and references, as well as other questions concerning local government. The quality of discussion, the good level of attendance, and the results of the mid-term examinations show that the seminars have been extremely successful. The seminars are concluded by a final review session in Calgary and Edmonton and written examinations at various points in the province.

Next year, in the third year of operation, the work will encompass a comprehensive study of commercial law, accounting, business administration and appraisal in the two municipal courses and the preparation of a course for school business administrators. It is anticipated that a program similar to the existing courses will be offered shortly to school secretary-treasurers. The prospective future developments of the Division will be in the fields of provincial and federal administration.

The Division is indebted to the following members of its advisory committee: Department of Political Economy, University of Alberta, The Department of Municipal Affairs, the Alberta Association of Municipal District Secretary-Treasurers, the Union of Alberta Municipalities, the Alberta Association of Municipal Districts, the Association of Assessing Officers of Alberta and the Appraisal Institute of Canada.

Staff

University extension is built on a basis of solid cooperation and it is a pleasure to record the financial and other support of Alberta organizations and the individual contributions of their staff members. Too, the University is indebted to many men and women from business and the professions in the province, experts in their field, who have given generously of their time and skill in extension programs. Special recognition should be made of all members of the staff including those of the Department of Extension who have shared the responsibility for the programs described above.

During the period of review, Mr. Zachariah Kay, B.A., M.A., joined the staff as Lecturer in Public Administration. Miss Margaret Galloway, B.A., of the Extension Library, returned to her home in South Africa.

Conclusion

During the year under review, education in Alberta has been the subject of sharp inspection and of heated debate. In all of this, the rising stature of adult education, consideration of its functions and emphasis has been the object of careful scrutiny. Continuing education, it has been stressed, is no longer the out-of-the ordinary, no longer associated with "peculiar, discontented or radical people". Moreover, stress has been laid, and properly so, on the growing responsibility of the university—particularly the state institution—in meeting the continuing education needs of its community.

Indeed, having in mind the mercurial and explosive times in which we live, we can only regard the educated person as "one who is at work on his own enlargement". It is in the provision of avenues to continuing learning that the University has found special responsibility and special opportunity.

Table I—Short Courses, Classes, Conferences and Workshops Arranged and Organized by the Department of Extension

Short Course, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
A. EVENING DIVISION					
1. Conversational French (Introductory)		Calgary	Oct. 13-Dec. 15	15	25
2. Conversational French (Senior)		Calgary	Oct. 13-Dec. 15	15	22
3. Conversational Spanish—Class A		Calgary	Oct. 13-Dec. 15	15	17
4. Conversational Spanish—Class B		Calgary	Oct. 13-Dec. 15	15	11
5. Conversational Spanish—Class C		Calgary	Oct. 13-Dec. 15	15	28
6. Russian Language—Beginners' Class A		Calgary	Oct. 19-Jan. 4	15	22
7. Russian Language—Beginners' Class B		Calgary	Oct. 19-Jan. 4	15	24
8. Russian Language (Advanced)		Calgary	Oct. 14-Dec. 16	11	15
9. The Law in Action		Calgary	Oct. 14-Dec. 16	15	59
10. Introduction to Psychology		Calgary	Oct. 14-Dec. 9	15	37
11. The Beginnings of Philosophy		Calgary	Oct. 15-Dec. 10	20	37
12. Introduction to Electronic Computer Programming		Calgary	Oct. 13-Dec. 1	12	27
13. Creative Writing		Calgary	Oct. 13-Dec. 15	20	17
14. Office Management		Calgary	Oct. 13-Dec. 15	20	39
15. An Introduction to Supervision—Class A	National Office Management Association	Calgary	Oct. 15-Dec. 17	20	23
16. An Introduction to Supervision—Class B		Calgary	Oct. 13-Dec. 15	20	10
17. Leadership Course in Parent Education		Calgary	Sept. 21-Dec. 7	24	8
18. Conversational French—Class A		Calgary	Jan. 18-Mar. 21	15	21
19. Conversational French—Class B		Calgary	Jan. 18-Mar. 21	15	22
20. Conversational French (Continuation)		Calgary	Jan. 20-Mar. 23	15	12
21. Conversational French (Advanced)		Calgary	Jan. 18-Mar. 21	15	12
22. Conversational Spanish—Class A		Calgary	Jan. 20-Mar. 23	15	21
23. Conversational Spanish—Class B		Calgary	Jan. 20-Mar. 23	15	15
24. Conversational Spanish (Continuation)		Calgary	Jan. 19-Mar. 22	15	21
25. Beginners' Russian—Class A		Calgary	Jan. 20-Mar. 23	15	23
26. Beginners' Russian—Class B		Calgary	Jan. 20-Mar. 23	15	18
27. Russian Language (Continuation)		Calgary	Jan. 18-Mar. 21	15	15
28. Russian Language (Advanced)		Calgary	Jan. 20-Mar. 23	15	10
29. Italian Conversation		Calgary	Jan. 20-Mar. 23	18	26
30. The Law in Action		Calgary	Jan. 19-Mar. 22	5	23
31. Introduction to Psychology		Calgary	Jan. 20-Mar. 23	15	45
32. Introduction to Electronic Computer Programming		Calgary	Jan. 19-Mar. 8	12	21
33. Creative Writing		Calgary	Jan. 19-Mar. 22	20	19
34. Office Management	National Office Management Association	Calgary	Jan. 19-Mar. 22	20	24
35. Conference Method and Conference Techniques	National Office Management Association	Calgary	Jan. 21-Mar. 24	20	9
36. Income Tax Procedures in Business		Calgary	Jan. 18-Mar. 21	15	15
37. The Frontiers of Science		Calgary	Jan. 12-Mar. 15	15	123

Table I—Continued

Short Course, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
38. Building or Buying Your Home	Central Mortgage and Housing Corporation	Calgary	Jan. 20-Mar. 2	10½	51
39. Fundamentals of Horticulture		Calgary	Jan. 21-Apr. 7	18	28
40. English Conversation and Pronunciation		Calgary	Jan. 20-Mar. 23	20	26
41. Introduction to Economics		Calgary	Jan. 21-Apr. 7	18	13
42. Great Books		Edmonton	Oct. 29-Mar. 31	24	12
43. Modern Political Ideas		Edmonton	Sept. 30-Mar. 30	48	15
44. Russian Communism and World Affairs		Edmonton	Nov. 2-Nov. 30	7½	23
45. Personality Development and Adjustment in Modern Society		Edmonton	Sept. 30-Dec. 16	18	49
46. Conversational French—Class A		Edmonton	Sept. 29-Jan. 19	22½	31
47. Conversational French—Class B		Edmonton	Sept. 30-Jan. 20	22½	36
48. Conversational French (Senior)	Edmonton	Edmonton	Sept. 29-Jan. 19	22½	20
49. Italian Conversation		Edmonton	Sept. 29-Dec. 15	18	33
50. Spanish for Beginners—Class A		Edmonton	Sept. 28-Nov. 30	15	15
51. Spanish for Beginners—Class B		Edmonton	Sept. 28-Nov. 30	15	26
52. Spanish for Beginners—Class C		Edmonton	Sept. 28-Nov. 30	15	20
53. Spanish for Beginners (Continuation)		Edmonton	Sept. 28-Nov. 30	15	17
54. Conversational German		Edmonton	Sept. 29-Dec. 15	18	18
55. Conversational German (Senior)		Edmonton	Sept. 29-Dec. 15	18	14
56. Beginners' Russian—Class A		Edmonton	Sept. 30-Dec. 16	18	11
57. Beginners' Russian—Class B		Edmonton	Sept. 30-Mar. 30	36	36
58. Beginners' Ukrainian	Edmonton	Edmonton	Sept. 30-Mar. 30	36	18
59. Polish Language		Edmonton	Sept. 30-Mar. 30	36	51
60. Effective Reading—Class A		Edmonton	Nov. 3-Apr. 5	30	24
61. Effective Reading—Class B		Edmonton	Sept. 28-Nov. 30	15	25
62. Essentials of Good English—Class A		Edmonton	Sept. 30-Dec. 2	15	27
63. Essentials of Good English—Class B		Edmonton	Sept. 28-Nov. 30	15	24
64. The Law in Action		Edmonton	Sept. 28-Nov. 30	15	26
65. Personality Development and Adjustment in Modern Society		Edmonton	Sept. 29-Dec. 15	18	56
66. Italian Conversation		Edmonton	Jan. 13-Apr. 20	22½	18
67. Spanish for Beginners—Class A		Edmonton	Jan. 12-Mar. 29	18	13
68. Spanish for Beginners—Class B	Edmonton	Edmonton	Jan. 11-Feb. 18	18	5
69. Spanish for Beginners (Continuation)		Edmonton	Jan. 11-Mar. 28	18	13
70. Spanish for Beginners (Continuation)		Edmonton	Jan. 11-Mar. 28	18	10
71. Spanish for Beginners (Continuation)		Edmonton	Jan. 12-Mar. 29	18	12
72. Spanish for Beginners (Advanced)		Edmonton	Jan. 11-Mar. 28	18	10
73. Conversational German		Edmonton	Jan. 12-Mar. 29	18	25
74. Conversational German (Continuation)		Edmonton	Jan. 12-Mar. 29	18	10
75. Effective Reading—Class A		Edmonton	Jan. 11-Mar. 14	15	15

76. Effective Reading—Class B	Edmonton	Jan. 11-Mar. 14	15	13
77. Essentials of Good English—Class A	Edmonton	Jan. 19-Mar. 22	16	19
78. Essentials of Good English—Class B	Edmonton	Jan. 25-Mar. 28	15	15
79. English Conversation and Pronunciation	Edmonton	Jan. 11-Mar. 14	20	19
80. Law in Action	Edmonton	Jan. 12-Mar. 29	18	37
81. Office Management—Class A	Edmonton	Jan. 19-Mar. 8	12	22
82. Office Management—Class B	Edmonton	Jan. 19-Mar. 7	12	37
83. Introduction to Geology	Edmonton	Jan. 19-Apr. 5	18	17
84. Glacial and Pleistocene Geology	Edmonton	Jan. 18-Apr. 4	18	26
85. Great Books	Edmonton	Jan. 13-Mar. 30	18	14
86. Building or Buying Your Home	Edmonton	Jan. 11-Feb. 22	10½	42
87. Income Tax Procedures in Business	Edmonton	Jan. 18-Mar. 7	12	24
88. Gardening for the Retail Trade	Edmonton	Jan. 19-Apr. 5	18	18
89. Fundamentals of Gardening	Edmonton	Jan. 18-Mar. 7	12	44
90. Office Management—Class A	Edmonton	Jan. 19-Apr. 5	18	18
91. Office Management—Class B	Crestwood	Jan. 18-Apr. 4	18	47
92. Introduction to Geology	Sherwood Park	Jan. 13-Mar. 30	18	20
93. House Plants	Edmonton	Oct. 6-Nov. 23	12	25
94. Landscape Design for Home Owners	Edmonton	Oct. 29-Dec. 15	18	38
95. Introduction to Theoretical Physics	Edmonton	Oct. 14-Nov. 25	6	25
96. Race and Politics in Africa	Edmonton	Jan. 19-Apr. 5	24	14
97. Portrait Painting and Drawing	Edmonton	Jan. 13-Mar. 16	20	40
98. Fundamentals of Landscape Painting	Edmonton	Mar. 22-Apr. 5	5½	25
99. Life Painting and Drawing	Edmonton	Apr. 6-June 22	24	18
100. Workshop Course in Pictorial Composition	Edmonton	Apr. 11-June 27	36	40
101. Fundamentals of Landscape Painting	Edmonton	Apr. 8-June 24	24	20
102. Fundamentals of Landscape Painting	Edmonton	Apr. 7-June 23	24	8
103. Fundamentals of Landscape Painting	Edmonton	Sept. 2-Nov. 4	30	19
104. Introduction to Life Painting	Edmonton	Sept. 5-Nov. 14	30	29
105. Portrait Painting	Edmonton	Sept. 28-Feb. 29	40	19
106. Fundamentals of Drawing	Edmonton	Sept. 29-Mar. 1	40	13
107. Fundamentals of Design	Edmonton	Sept. 29-Mar. 1	40	30
108. Pictorial Composition	Edmonton	Sept. 29-Mar. 1	40	8
109. Advanced Life and Portrait Painting	Edmonton	Sept. 30-Mar. 9	40	35
110. Landscape and Pictorial Composition	Edmonton	Sept. 30-Mar. 2	40	23
111. Landscape and Pictorial Composition	Edmonton	Oct. 1-Mar. 3	40	19
112. Pottery—Class A	Edmonton	Oct. 18-Feb. 10	20	10
113. Pottery—Class B	Edmonton	Nov. 14-Feb. 6	20	10
114. Pottery—Class C	Edmonton	Oct. 20-Mar. 22	40	8
115. What to Listen for in Music	Edmonton	Oct. 21-Mar. 23	40	8
116. Ceramics and Sculpture	Edmonton	Oct. 22-Mar. 24	40	8
117. Conversational French	Edmonton	Sept. 30-Dec. 9	15	40
118. Conversational French (Senior)	Lethbridge	Jan. 11-Mar. 28	24	8
119. Introduction to German	Lethbridge	Oct. 13-Dec. 15	15	17
120. Introduction to German	Lethbridge	Oct. 13-Dec. 15	15	17
121. Conversational French	Lethbridge	Jan. 12-Mar. 15	15	11
122. Conversational French (Senior)	Lethbridge	Jan. 12-Mar. 15	15	10
Central Mortgage and Housing Corporation				
Crestwood Community League				
Sherwood Park Garden Club				
Lethbridge Junior College				
Lethbridge Junior College				
Lethbridge Junior College				
Lethbridge Junior College				
Lethbridge Junior College				

Table I—Continued

Short Course, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
123. Introduction to German	Lethbridge Junior College	Lethbridge	Jan. 12-Mar. 15	15	13
124. Shakespeare and His Theatre	Lethbridge Junior College	Lethbridge	Jan. 19-Mar. 22	15	14
125. Introduction to Psychology	Lethbridge Junior College	Lethbridge	Jan. 21-Mar. 24	15	16
126. Psychology	Lethbridge Junior College	Red Deer	Oct. 26-Dec. 14	12	14
127. Law in Action		Red Deer	Feb. 1-Mar. 21	16	17
128. Conversational French		Medicine Hat	Jan. 27-Mar. 30	15	15
129. Designing a Southern Alberta Garden		Medicine Hat	Jan. 25-Mar. 28	20	8
B. RURAL, COMMUNITY AND AGRICULTURAL SHORT COURSES AND CONFERENCES					
130. Farm Young Peoples' Week	A.W.P., F.U.A., U.G.G., A.C.W.A., U.F.A.	Edmonton	June 2-11	170	105
131. Leadership Day for University Students	Co-op. Students' Union	Edmonton	Oct. 4	8	75
132. Leadership Techniques	A.W.P., F.U.A., U.G.G., A.W.I., A.C.W.A., U.F.A. Co-op	Banff	Oct. 26-Nov. 7	87	29
133. Community Workshop	Alberta Women's Institutes	High Prairie	Jan. 16	6	25
134. Workshop	F.U. and C.D.A.	Bonnyville	Feb. 10-11	12	28
135. Workshop	F.U. and C.D.A.	Stony Plain	Feb. 13	6	30
136. Rural Leadership Conference	A.W.P., F.U.A., U.G.G., A.C.W.A., U.F.A. Co-op.	Banff	Feb. 28-Mar. 12	72	39
137. Community Workshop	A.W.I., Alberta Adult Education Conference	Peace River	Mar. 16	6	32
138. Western Canadian Farm Leaders' Conference		Banff	Mar. 14-18	40	21
139. Alberta Adult Education Conference		Banff	May 8-9	10	68
C. FINE ARTS, EXTENSION CLASSES AND WORKSHOPS					
140. Directing	Lethbridge Junior College	Medicine Hat	Apr. 7-May 5	10	17
141. Acting		Lethbridge	Apr. 8-May 6	10	15
142. Acting		Edmonton	Apr. 10-May 8	10	25
143. Child Drama	Alberta Teachers' Association	Westlock	June 8	5	40
144. Child Drama	Alberta Teachers' Association	Peace River	June 9	3	42
145. Child Drama	Alberta Teachers' Association	Dixonville	June 9	2	37
146. Child Drama	Quota Club, Red Deer	Red Deer	June 10-11	4	47
147. Child Drama	Alberta Teachers' Association	Edmonton	June 15-20	20	120
148. Child Drama	Calgary Allied Arts Council and the Junior League of Calgary	Calgary	June 25-26	8	35
149. Acting	The Buskins	Calgary	Sept. 28-Oct. 2	6	19
150. Directing	M.I.A.	Stirling	Oct. 5-7	6	15
151. Voice and Speech		Edmonton	Oct. 20-Apr. 11	35	24
152. Drama	Edmonton Recreation Department	Waterton Park	Jan. 7-8	4	13
153. Drama	University of Alberta in Calgary	Edmonton	Jan. 11-Mar. 28	24	34
154. Acting		Calgary	Jan. 12-Mar. 15	20	31
155. Intensive Short Course (Painting)		Lethbridge	May 1-2	20	12

Table 1—Continued

Short Course, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
204. Summer Concerts	Edmonton Symphony Society	Edmonton	July 15-Aug. 5	8	1,200
205. Roubakine Piano Recital		Edmonton	Mar. 7-14	6	60
206. Roubakine Piano Recital		Calgary	Mar. 9-23	6	75
207. Great Music		Edmonton	Jan. 18-Mar. 21	18	20
D. BUSINESS, INDUSTRIAL AND PROFESSIONAL COURSES					
208. Fundamentals of Supervision		Edmonton	May 11-15	30	31
209. Fundamentals of Supervision		Calgary	May 19-23	30	16
210. Fundamentals of Supervision		Lethbridge	May 25-29	30	26
211. Fundamentals of Supervision		Edmonton	Jan. 11-15	30	30
212. Fundamentals of Supervision		Calgary	Jan. 18-22	30	35
213. Fundamentals of Supervision		Medicine Hat	Jan. 23-29	30	30
214. Industrial Relations Seminar		Edmonton	Oct. 26-28	18	30
215. Industrial Relations Seminar	Chambers of Commerce (Edmonton, Calgary, Medicine Hat, Lethbridge)	Calgary	Oct. 29-31	18	20
216. Retailing Principles and Practice	Canadian Manufacturers' Association Edmonton Chamber of Commerce Retail Committee	Edmonton	Oct. 19-Apr. 4	40	39
217. Personnel Administration	Personnel Associations of Edmonton and Calgary	Edmonton	Oct. 27-Mar. 3	18	37
218. Personnel Administration	University School of Commerce	Calgary	Oct. 29-Mar. 3	18	32
219. Self-Development Program	Calgary Jr. Chamber of Commerce	Calgary	Oct. 15-Dec. 17	20	11
220. Negotiation and Performance of Contracts	Edmonton Chamber of Commerce	Edmonton	Jan. 14-Apr. 21	30	30
221. Real Estate Principles and Practice—1st year	Alberta Real Estate Association	Calgary	Oct. 6-May 3	32	24
222. Real Estate Principles and Practice—1st year	Alberta Real Estate Association	Edmonton	Oct. 8-May 5	32	24
223. Real Estate Principles and Practice—2nd year	Alberta Real Estate Association	Calgary	Oct. 13-May 3	32	24
224. Real Estate Principles and Practice—2nd year	Alberta Real Estate Association	Edmonton	Oct. 15-May 5	32	24
225. Credit Union Short Course	Edmonton Chapter, C.U.L. of Alberta	Edmonton	Oct. 5-7	6	70
226. Credit Union Conference	Calgary Chapter, C.U.L. of Alberta	Calgary	Dec. 4-5	16	30
227. Labour Economics	Alberta Federation of Labour	Calgary	Oct. 6-Apr. 12	48	18
228. Civic Administration on Indian Reserves	Band Council, Saddle Lake Reserve; Dept. of Indian Affairs	St. Paul	Jan. 14-15	12	10
229. Engineering Economy	Dept. of Political Economy	Edmonton	Oct. 13-Mar. 18	40	42
230. Systems Analysis	Dept. of Electrical Engineering	Edmonton	Apr. 20-25	36	19
231. Engineering Mathematics		Edmonton	Sept. 14-Mar. 28	50	27
232. Engineering Mathematics		Edmonton	Sept. 14-Mar. 28	50	23
233. Engineering Mathematics		Edmonton	Sept. 14-Mar. 28	50	20
234. Descriptive Geometry		Edmonton	Jan. 8-Mar. 25	24	46
235. Engineering Mathematics		Calgary	Oct. 19-Apr. 18	50	31
236. Descriptive Geometry		Calgary	Jan. 6-Mar. 23	24	31
237. Numerical Method		Edmonton	Oct. 26-Apr. 25	49	18

238. Numerical Method	Faculty of Engineering	Calgary	Oct. 28-Apr. 27	1
239. Photo Interpretation for the Petroleum Industry	Faculty of Engineering	Calgary	Jan. 25-29	49
240. Applied Photogrammetry and Airphoto Analysis	Faculty of Engineering	Edmonton	Feb. 1-5	40
241. Semi-Conductors and Transistors	Association of Professional Engineers of Alberta,	Edmonton	Jan. 11-Mar. 28	19
242. Industrial Water Treatment	Faculty of Engineering	Edmonton	Feb. 10-11	44
243. Sanitary Inspection	Canadian Institute of Sanitary Inspectors (Alberta Branch),	Edmonton	Apr. 20-24	44
244. Municipal Administration	Faculty of Agriculture	Banff	June 7-10	71
245. School Administration	Alberta Department of Municipal Affairs, Alberta Association of Municipal Secretary-Treasurers	Banff	June 11-13	146
246. Social Welfare—Introduction to Social Work—Part B	Alberta Department of Education, Alberta School Secretaries Association, Alberta School Trustees' Association	Lethbridge	Oct. 13-Dec. 8	10
247. Social Welfare—Interviewing Methods		Edmonton	June 8-12	26
248. Social Welfare—Interviewing Methods		Edmonton	July 13-17	40
249. Social Welfare—Interviewing Methods		Calgary	June 15-19	21
250. Social Welfare—Interviewing Methods		Calgary	July 20-24	40
251. Child Welfare—Welfare Practice—Child Welfare Seminar		Edmonton	Nov. 10-Feb. 17	15
252. Social Welfare—Welfare Practice—Public Assistance Seminar		Edmonton	Nov. 3-Feb. 16	18
253. Social Welfare—Welfare Practice—Corrections Seminar		Edmonton	Nov. 17-Feb. 17	6
255. Child Welfare Seminar		Calgary	Nov. 10-Feb. 16	22
256. Social Welfare—Welfare Practice—Public Assistance Seminar		Calgary	Nov. 10-Feb. 16	13
257. Clinical Medicine for Podiatrists	University School of Nursing,	Edmonton	Apr. 20-May 30	13
258. Medical Nursing	University Hospital	Edmonton	Oct. 12-13	7
259. Medical Nursing	Alberta Podiatry Association	Edmonton	Mar. 16-18	52
260. How to Invest Your Money in Stocks and Bonds	University School of Nursing,	Calgary	Mar. 21-23	42
261. Managing Your Investments	Calgary General Hospital School of Nursing	Correspondence	Oct. 1-Mar. 31	75
262. Managing Your Investments	Investment Dealers' Association of Canada	Edmonton	Jan. 26-Mar. 15	67
263. Planning Your Estate	Department of National Revenues; Life Underwriters' Association; Trust Companies Association of Canada	Calgary	Jan. 28-Mar. 17	16
264. Prospecting	Alberta and Northwest Chamber of Mines; Department of Geology	Edmonton	Feb. 17-Mar. 16	27
			Nov. 2-Dec. 17	55

Table I—Continued

Short Course, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
265. English Linguistic Seminar	Canada Department of Citizenship and Immigration	Edmonton	July 6-Aug. 14	150	5
266. English Usage for Chartered Accountants	Institute of Chartered Accountants of Alberta	Edmonton	Nov. 14-Jan. 16	12	33
267. English Usage for Chartered Accountants	Institute of Chartered Accountants of Alberta	Calgary	Nov. 14-Jan. 16	12	29
268. English Usage for Chartered Accountants	Institute of Chartered Accountants of Alberta	Correspondence	Nov. 14-Jan. 16	...	17
269. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Mar. 21	40	35
270. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Apr. 14	52	35
271. Accounting I	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Mar. 28	42	33
272. Accounting II	Society of Industrial and Cost Accountants	Calgary	Oct. 6-Mar. 15	42	34
273. Accounting II	Society of Industrial and Cost Accountants	Calgary	Oct. 6-Mar. 29	40	30
274. Accounting III	Society of Industrial and Cost Accountants	Calgary	Jan. 14-Mar. 31	20	6
275. Industrial Organization and Management	Society of Industrial and Cost Accountants	Calgary	Oct. 6-Mar. 8	40	17
276. Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Mar. 17	40	31
277. Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Mar. 17	40	30
278. Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Mar. 24	42	35
279. Industrial Legislation	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Mar. 17	42	31
280. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Mar. 17	40	30
281. Advanced Cost Accounting	Society of Industrial and Cost Accountants	Calgary	Oct. 5-Mar. 21	40	30
282. Managerial Statistics	Society of Industrial and Cost Accountants	Calgary	Oct. 8-Dec. 10	20	6
283. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 17	40	31
284. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 17	40	32
285. Accounting I	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 17	40	27
286. Accounting II	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 14	46	24
287. Accounting II	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 17	42	30
288. Accounting III	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 31	34	13
289. Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 5-Mar. 21	40	39
290. Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 5-Mar. 21	40	36
291. Industrial Legislation	Society of Industrial and Cost Accountants	Edmonton	Oct. 5-Mar. 21	44	38
292. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 8-Mar. 24	42	29
293. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 5-Mar. 17	44	31
294. Advanced Cost Accounting	Society of Industrial and Cost Accountants	Edmonton	Oct. 6-Mar. 22	42	29
295. Managerial Statistics	Society of Industrial and Cost Accountants	Edmonton	Oct. 15-Mar. 10	24	12
E. PETROLEUM INDUSTRY TRAINING SERVICE					
296. Battery Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Drayton Valley	Apr. 8-May 12	15	20
297. Battery Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Camrose	Apr. 7-28	15	14
298. Battery Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Devon	May 14-June 11	15	18
299. Battery Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Redwater	June 15-19	15	13
300. Battery Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Estevan, Sask.	July 6-10	15	26

301.	Drilling Technology	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Apr. 6-17	30	40
302.	Field Handling of Natural Gas	C.P.A., C.A.O.D.C., O & G.C.B.	Drayton Valley	Sept. 14-25	30	39
303.	Field Handling of Natural Gas	C.P.A., C.A.O.D.C., O & G.C.B.	Red Deer	Sept. 28-Oct. 2	30	17
304.	Field Handling of Natural Gas	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Oct. 5-9	30	30
305.	Fire Control	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Apr. 10	2	11
306.	Fire Control	C.P.A., C.A.O.D.C., O & G.C.B.	Redwater	Apr. 20	2	11
307.	Fire Control	C.P.A., C.A.O.D.C., O & G.C.B.	Wetaskiwin	May 22	2	14
308.	Gas Plant Operators	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Oct. 19-23	30	12
309.	Gas Plant Operators	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Feb. 22-26	30	23
310.	Introduction to Oilfield Practice	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Oct. 13-Dec. 15	20	54
311.	Production Technology	C.P.A., C.A.O.D.C., O & G.C.B.	Edmonton	Nov. 2-6	30	19
312.	H2S Gas	C.P.A., C.A.O.D.C., O & G.C.B.	Okotoks	May 12	2	44
313.	H2S Gas	C.P.A., C.A.O.D.C., O & G.C.B.	Windfall	June 9	2	25
314.	Supervisory Training	C.P.A., C.A.O.D.C., O & G.C.B.	Calgary	Mar. 31-Apr. 2	12	21
315.	Supervisory Training	C.P.A., C.A.O.D.C., O & G.C.B.	Drayton Valley	Sept. 14-17	12	13
316.	Supervisory Training	C.P.A., C.A.O.D.C., O & G.C.B.	Calgary	Nov. 17-20	12	17
317.	Supervisory Training	C.P.A., C.A.O.D.C., O & G.C.B.	Drayton Valley	Jan. 18-20	18	19
318.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Red Deer	Jan. 21-23	18	11
319.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Drumheller	Jan. 25-27	18	21
320.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Bowden	Jan. 28-31	18	31
321.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Bentley	Feb. 2-4	18	12
322.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Rimbey	Feb. 5-8	18	98
323.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Carstairs	Feb. 9-11	18	20
324.	Drilling Rig Operations	C.P.A., C.A.O.D.C., O & G.C.B.	Bragg Creek			

F. PUBLIC ADMINISTRATION TRAINING DIVISION

325.	Municipal Administration	Department of Municipal Affairs, Government of Alberta; Alberta Association of Municipal District Secretaries-Treasurers; Union of Alberta Municipalities; Alberta Association of Municipal Districts	Lacombe	Nov. 2-Mar. 28	25	12
326.	Municipal Administration	"	Pincher Creek	Nov. 4-Mar. 30	25	4
327.	Municipal Administration	"	Lethbridge	Nov. 5-Mar. 31	25	7
328.	Municipal Administration	"	Medicine Hat	Nov. 6-Apr. 1	25	9
329.	Municipal Administration	"	Sedgewick	Nov. 9-Mar. 22	25	7
330.	Municipal Administration	"	Hanna	Nov. 10-Mar. 22	25	6
331.	Municipal Administration	"	Calgary	Nov. 3-Mar. 23	25	11
332.	Municipal Administration	"	St. Paul	Nov. 16-Apr. 18	25	5
333.	Municipal Administration	"	Thorhild	Nov. 17-Apr. 19	25	8
334.	Municipal Administration	"	Peace River	Nov. 19-Apr. 21	25	4
335.	Municipal Administration	"	Grande Prairie	Nov. 20-Apr. 22	25	7
336.	Municipal Administration	"	Edmonton	Nov. 23-Apr. 25	25	12
337.	Municipal Administration	"	Edmonton	Nov. 24-Apr. 26	25	5
338.	Municipal Administration	"	Edmonton	Nov. 26-Apr. 28	25	7
339.	Municipal Administration	"	Edmonton	Nov. 27-Apr. 29	25	6

Table I—Continued

Short Course, Class Conference or Workshop

	Co-sponsors	Location	Period	Hours	Attendance
340. Municipal Assessment	Department of Municipal Affairs, Government of Alberta; Alberta Association of Municipal Districts; Union of Alberta Municipalities; Association of Assessing Officers of Alberta; Appraisal Institute of Canada	Lacombe	Nov. 2-Mar. 28	25	7
341. Municipal Assessment	"	Calgary	Nov. 2-Mar. 28	25	7
342. Municipal Assessment	"	Pincher Creek	Jan. 13-Feb. 17	10	1
343. Municipal Assessment	"	Lethbridge	Nov. 5-Mar. 31	25	10
344. Municipal Assessment	"	Medicine Hat	Nov. 6-Apr. 1	25	3
345. Municipal Assessment	"	Sedgewick	Nov. 9-Mar. 21	25	2
346. Municipal Assessment	"	Hanna	Nov. 10-Mar. 22	25	4
347. Municipal Assessment	"	Calgary	Dec. 9-Mar. 29	20	11
348. Municipal Assessment	"	St. Paul	Nov. 16-Apr. 18	25	3
349. Municipal Assessment	"	Thorhild	Nov. 17-Apr. 19	25	2
350. Municipal Assessment	"	Peace River	Nov. 19	5	3
351. Municipal Assessment	"	Grande Prairie	Nov. 20-Apr. 22	25	7
352. Municipal Assessment	"	Edmonton	Nov. 23-Apr. 25	25	12
353. Municipal Assessment	"	Edmonton	Nov. 24-Apr. 26	25	7
354. Municipal Assessment	"	Edmonton	Nov. 26-Apr. 28	25	14
355. Municipal Assessment	"	Edmonton	Nov. 27-Apr. 29	25	11
					12,666

Table II—Statistical Information, Extension Library

<i>Open Shelf</i>			
	1958-59	1959-60	Difference
Adults books (including periodicals and pamphlets)	65,938	81,549	15,611
Children's books	35,544	49,944	14,400
	<u>101,482</u>	<u>131,493</u>	<u>30,011</u>
<i>Travelling Libraries</i>			
No. of Travelling Libraries sent out: (35-40 books per box)			
	1958-59	1959-60	
Adult	115	73	
Mixed	55	55	
Children's	425	328	
	<u>595</u>	<u>456</u>	
Circulation (recorded outside the Library) ...	50,477	46,158	—4,319
Banff School of Fine Arts	451	597	146
<i>Total Circulation</i>	<u>152,410</u>	<u>178,248</u>	<u>25,838</u>
<i>Reference Questions</i>	1,610	1,550	—60
<i>Number of Books in Collection</i>			
At April 1st, 1959		49,659	
Accessions	4,661		
Withdrawals	6,219		
	<u> </u>	<u>—1,558</u>	
At March 31st, 1960		<u>48,101</u>	

Table III—Statistical Information, Division of Visual Instruction

<i>Number of Motion Picture Films in Library:</i>	
Silent, 8 mm. and 16 mm.	540
National Film Board Sound Films	948
Sponsored Sound Films	378
Sound Films, General	1,609
Total Films in Library	3,439
Number of New Films Added to Library During Year (included in above)	183
Number of Filmstrips in Library	2,632
Number of Sets of 2 × 2 Slides in Library	182

Film Circulation

	1959-60	1958-59	Comparison
Number of Reels Silent Films Sent Out	636	891	—255
Number of Reels Sound Film Sent Out	16,606	16,519	+87
Total Sets of Moving Pictures Sent Out	3,301	3,980	—79
Total Number of Showings of Films, Sound and Silent	5,687	5,266	+421
Total Audience Viewing Films	610,529	504,739	+105,790
Number of Times Projection Service Supplied	264	201	+63
Number of Screenings for Groups in Screening Room	148	90	+58

Slides and Filmstrips

	1959-60	1958-59	Comparison
Number of 2 × 2 Slides Sent Out	56	68	—12
Total Audience Viewing Slides	975	2,304	—1,329
Individual Filmstrips Sent Out	3,535	3,158	+377
Total Audience Viewing Strips	46,836	54,991	—8,155

Table IV—General Statistical Survey

Visual Instruction

Number of Sets 2 × 2 Slides Sent Out	56	
Total Audience Viewing Slides		975
Individual Filmstrips Sent Out	3,535	
Total Audience Viewing Filmstrips		46,836
Number of Reels of Silent Film Sent Out	636	
Number of Reels of Sound Film Sent Out	16,606	
Total Sets of Moving Picture Films Sent Out	3,901	
Total Showings of Films, Sound and Silent	5,687	
Total Audience Viewing Films		610,529
Number of Times Projection Service Supplied	264	
Number of Screenings for Groups in Screening Room	148	
Total Number of Screenings	412	

Lectures

University Staff and Department of Extension Staff	2,222	
Aggregate Attendance		74,845
Number of Radio and TV Talks	193	
Number of Conferences and Short Courses, Table I	355	12,666
Feeder's Day Attendance—1,500		

Library Circulation

Travelling Libraries		46,158
Open Shelf:		
Adult Books (including periodicals and pamphlets)	81,549	
Juvenile Books	49,944	
Total		131,493

Study Group Material

Number of Copies of New Canadian Plays Sold	30
Number of Bulletins, Circulars and Leaflets Sent Out	33,699

Report of Senator Donald Cameron, Director of the Banff School of Fine Arts

The year just concluded was the most active and the largest from the standpoint of numbers of groups and people served, in the twenty-seven year history of the School. The fact that the School has become Canada's leading centre for residential adult education is borne out by the fact that over one hundred groups containing over 7,000 persons spent from two days each to six or more weeks in residence. These groups participated in short courses, conferences, meetings, workshops, retreats, seminars and schools and the subjects of discussion were as broad as life itself, running all the way from religion, fine arts, recreation and leadership to executive training.

During the year, the School dining room provided 150,000 meals and 50,000 man/nights were provided in its own residences. The latter figure does not take into account those people who were accommodated in facilities taken under contract by the School during periods of peak attendance.

The School's executive training program continues to attract an increasing enrolment from an ever-widening cross section of Canadian business and industry. In addition to the Banff School of Advanced Management sponsored as a co-operative venture by the four western Universities, the School offered its own courses in Executive Development, Personnel Administration, Petroleum Accounting, Life Insurance Marketing and Automotive Management. In addition, an increasing number of business organizations such as oil companies, insurance companies, trade unions, co-operatives and the Wheat Pools are using the School's facilities for residential in-service training programs. In the same way, the School's resources are used by the Department of Extension

and the Faculty of Education for concentrated courses in leadership training. Canadian business alone contributed fees and expenses of over \$100,000 for courses held at Banff. The School's own gross budget reached an all-time high of \$410,000 in the fiscal year just ended and the net cost to the University was \$32,000. This latter amount was entirely used for capital equipment and improvements to grounds and buildings.

The completion of the north wing of the Administration Building at a cost of \$550,000 in 1960 made a tremendous improvement in physical resources of the School and great credit is due to the University, the Provincial Government and the Canada Council for making this necessary and valuable addition possible.

During June, July, August and September, 678 students from every province in Canada and 23 states of the United States, with a few from Europe, South Africa and Australia were enrolled in the 27th Annual Summer Session. This enrolment was the largest in the history of the School. To serve this group, a total of 65 instructor and assistants were required, plus a service and office staff of 100 people.

The Banff School of Fine Arts Summer Festival Program which ran from July 6th to August 15th provided 25 public performances in Banff and four other Alberta centres to audiences in excess of 17,000 people. In addition, the Festival Tour was entirely self-supporting.

An evidence of the growing public support for the fine arts is that almost \$20,000 was contributed by private individuals, business organizations and the Provincial Government towards the scholarship program in the 1959 Summer Session. These generous contributions which varied from \$50 to \$3,000 enabled us to provide some financial assistance to one out of every six students who attended the School. Without this kind of support it would not be possible to attract the highly talented students who set a high standard of achievement and who make the public performances in opera, theatre and ballet possible.

Twenty-seven years ago the Banff School was branded as a pioneer experiment in providing a program of continuing education in the fine arts. It was started without one dollar of capital and ran for four weeks. Today, the School has a two and a half million dollar campus, with first class dining, residence and classroom facilities. It operates twelve months of the year. In the space of little more than a quarter of a century it has become Canada's leading centre for residential adult education, serving people from every walk of life and from every part of the nation. The foundation has been laid and in the years to come the Banff School will play an ever-increasing role in helping Canadians to meet the challenge of their times.

Report of Dr. R. D. Stuart, Director of the Provincial Laboratory of Public Health

During 1959 the Provincial Laboratories carried out 553,482 examinations, an increase of 26,972 over 1958. This increase is recorded wholly in the Calgary laboratory whose examinations showed a striking increase of 26% over last year's total. The failure of the Edmonton laboratory, for the first time in ten years, to show any increase was largely due to policy in that a certain devolution in examinations and an alteration in technical approach eliminated a considerable number of simpler examinations and allowed the laboratory to concentrate on more complicated procedures. Milk examinations were transferred entirely to the Dairy Branch Laboratory thus centralizing these examinations in a

laboratory specifically devoted to this work while the elimination of approximately 6,000 smears for gonococci was due to technical developments indicated last year which allowed greater concentration on the more significant cultural investigations. In both laboratories, however, high percentage increases were recorded in Diagnostic Cytology. Other notable increases were evident in enteric and fungus investigations in the Calgary laboratory and in virus investigations in the Edmonton laboratory.

Special Trends

In Edmonton a certain subdivision of sections has occurred in both Pathology and Bacteriology. This has been necessitated by certain sections becoming unduly large and cumbersome but more importantly it has allowed a separation of much of the hospital diagnostic work from miscellaneous public health investigations. This trend has permitted better control of hospital diagnostic examinations, has accelerated reporting and has become almost inevitable due to an increasing demand for statistical returns by the Federal Government. This last requirement has produced another trend, to the recording of work performance under unit values instead of under examinations. This use of unit values although still experimental will eventually be a better indicator of the actual work necessitated by various types of examinations than any system currently in use but requires considerable time for an effective changeover in any large laboratory. Probably by 1961 the system may be fully operational in both Calgary and Edmonton laboratories. Increasing involvement in hospital work is also apparent in the southern laboratory in spite of its unfortunate location. According to Dr. Shute this has been particularly evident in diagnostic histology and may be partly explained by the policy of making the Red Cross Crippled Childrens' Hospital an active treatment center for paediatric cases.

New or Supplementary Services

In this category comes the new virus service established in the Edmonton laboratory with the facilities provided by the recent laboratory extension. Since an adequately trained virologist could not be obtained to take charge of this service it had necessarily to be developed by slow and rather tentative steps. Dr. Williams, previously Assistant Bacteriologist, has made significant contributions to this development which now utilizes the services of two full time technicians, one part time technician and one full time assistant in charge of glassware. The virus serology section began experimental procedures in March, 1959, established a routine service for the University Hospital in September and a similar service for Health Units, military establishments, etc. in November. The culture of certain viruses in chick embryos was begun in June and technical methods have been developed to the stage of providing a partial service for the University Hospital and for the Student Infirmary. This procedure is mainly applicable to influenza for which throat washing kits are now available and a Provincial epidemiological service has been mooted. In the still more difficult field of tissue culture, in which viruses are grown in living human or animal tissues in the test tube, experimental procedures were begun in December but considerably more work and probably extra staff training will be required before any routine service can be established.

In Pathology both Dr. Macgregor and Dr. Shute report a greatly increased clinical demand for the cytological examination of cervical secretions, although as Dr. Shute indicates, cervical cancer is detected in an extremely low

percentage of symptom-free women by this means. Nonetheless the increased emphasis on cytological examination has led to the realization by doctors that early cancer has no characteristic visual appearance. The consequent increased demand for microscopic examination of tissue biopsies from cervical lesions has been particularly evident. Dr. Macgregor points out that his Division discovered last year 12 cases of early non-invasive cancer of the cervix. The chances of cure in this type of cancer should be very good.

The technique of cervical smear cytology is so thoroughly established in gynecological circles across North America that special provision may have to be made for it in our laboratories. As a tentative step in this direction a technician has been sent to a Cytology Centre for special training in the approved methods.

In Syphilis Serology the Edmonton laboratory has now replaced the Kahn test by the VDRL test. Once experience has been attained this test can be performed rather more quickly than the Kahn test. More importantly it allows the work of this laboratory to correspond directly with that of other Provincial Laboratories across Canada. During 1960 it is hoped to extend this procedure to the southern laboratory. Incidentally, it should be mentioned that the changeover required no fewer than 4,028 separate examinations carried out in parallel with the earlier techniques to allow it to be brought into operation. These examinations are not recorded in Table I.

General Services

Pathology—During the year 28,444 blocks of tissues removed during surgery were examined and reported on in our two laboratories. Cancer was present in from 7 to 14% of the cases examined. Tissue reporting, of course, discloses many abnormalities other than cancer and the reports are of value to the physicians and surgeons in checking on clinical diagnosis and often in deciding upon a proper course of treatment. Medico-legal autopsies, carried out by the Edmonton laboratory, continue to increase from year to year and members of the Pathology Division are frequently called by the Courts to give expert medical evidence in such cases. 72 such autopsies were performed in 1959.

Bacteriology—The continuing rise in the number of *Salmonellas* isolated was referred to in last year's report. The implication is abundantly confirmed by this year's figures which indicate more than twice as many isolations as last year. The large numbers appearing in the Calgary report are due principally to a food poisoning outbreak following a private reception in Fort McLeod. In all some 200 people were involved and the causative organism, *Salmonella typhi-murium*, was isolated from chicken and potato salad. In an excellent piece of epidemiological investigation carried out by the southern laboratory two of the caterers' food handlers were shown to be excreting the organism which was also isolated from pooled chicken faeces collected on the farm which provided the caterer with the fowl. The probable importance of chickens in the dissemination of human food poisoning *Salmonellae* may also be indicated in the marked rise in *Salmonella heidelberg* infections recorded in Edmonton. For the first time since such records have been kept this organism has superseded *Salmonella typhi-murium* as the second most important cause of human food poisoning. Coincidentally the same organism has for the first time become the most important human pathogen involved in chicken *Salmonellosis* in Alberta. These human figures are especially significant because they are derived from a large number of more or less discrete cases. One small out-

break, ascribable to contact infection only, occurred in an Edmonton hospital. Calgary, however, produced a distinct food poisoning episode due to *Salmonella newport* which was traced to home cured smoked ham. The proprietor of the store and all four members of his staff proved to be symptom-free carriers.

Of considerable importance is the evidence that enteropathogenic *E. coli* have begun, apparently for the first time, to be an important cause of infantile gastroenteritis in this Province. 66 strains were isolated in the northern part of the Province from 42 patients, mainly in the Edmonton area. 55 strains were of the serotype 0119:B14 and the sources indicate the wide spread and high incidence of this organism.

Diphtheria incidence, though small, is regularly recorded in this yearly report. During the 1959, 18 strains were isolated in the Edmonton laboratory and 5 in Calgary. The latter were isolated from Indians of the Blood tribe at Cardston, 4 being from aural infections while one involved the throat.

Brucella abortus was isolated from one case in Calgary. This organism was of the usual undulant fever variety presumably of bovine origin. *Brucella melitensis* was isolated in Edmonton from an Eskimo living in Cambridge Bay, N.W.T. This organism was of the same type as those previously isolated from Eskimos in the same area in 1954 and 1956.

Unusual incidents have been encountered in the Tuberculous sections of both laboratories. In Edmonton *Nocardia asteroides* (an organism which may be confused with the tubercle bacillus) was isolated from two patients, on one of whom it was responsible for serious chronic pulmonary disease. From Calgary Dr. Shute reports an interesting autopsy on a 58 year old man which revealed multiple abscesses containing enormous numbers of *M. tuberculosis*. The unusually acute terminal phase of the disease is remarkable in a patient of this age.

Staff

During the year one senior technologist was sent for a special two week course in parasitology given by Dr. Cameron, Consultant to the Federal Department of Health. This course was supported by a Provincial training grant and the training has been of exceptional benefit to the parasitological diagnostic work in the Edmonton laboratory.

TABLE II
CONTROL OF ENTERIC-DYSENTERY INFECTIONS

Examinations	Edmonton	Calgary
Blood and Clot Cultures	1,295	681
Faeces Cultures	2,784	1,469
Urine Cultures	91	22
Other examinations	87	.....
Serological tests	1,814	761
<i>Details of Isolations including repeats</i>		
<i>Salmonella</i>		
S. typhi	25	6
S. paratyphi B	7	1
S. typhi-murium	15	116
S. heidelberg	80	19
S. newport	3	63
S. tennessee	7	1
Other Salmonellae	7	6
<i>Shigella</i>		
Shigella sonnei	79	41
Shigella flexneri	41	15
Shigella boydii	2	.....
<i>Enteropathogenic E. coli</i>		
Type 0119:B14	55	.....
Other types	11	.....

TABLE III
CONTROL OF TUBERCULOSIS

Examinations	Edmonton	Calgary
Microscopic	6,462	903
(positive)	287	18
Culture	3,965	694
Animal inoculations	2,221	756
<i>Specimens</i>	<i>Edmonton</i>	<i>Calgary</i>
	No. Positive	No. Positive
Pulmonary	4,820 362	1,046 16
Meningeal	81 11	24
Renal	921 72	334 3
Other	392 34	246 2

TABLE IV
CONTROL OF SYPHILIS—EXAMINATIONS

	Edmonton	Calgary
Cerebro-spinal fluids—Wassermann (Kolmer)	1,605	919
Bloods—Presumptive Kahn or VDRL	95,738	30,860
—Standard Kahn	7,192	4,992
—Quantitative Kahn or VDRL	881	316
—Wassermann (Kolmer)	12,819	5,152
Blood and cerebro-spinal fluid "positive to reaction"	488	215
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	1,595	945
Pre-marital Bloods	12,725	8,486
Positive to reaction	12	7

TABLE V
SANITARY CONTROL MILK AND CREAM

	Edmonton	Calgary
Milk and Ice-cream (No. of specimens)	112	245
Coliform test	51	138
Plate count	112	245
Phosphatase	12	120
Butter fat	12	105

TABLE VI
SANITARY CONTROL WATER

	Edmonton	Calgary
Water (No. of specimens)	6,126	3,470
Coliform test—Presumptive	6,096	2,565
—Confirmed	1,678	910
—Special	197	837
Plate count	4,924	3,475
Waters found bacteriologically unsuitable	594	573

TABLE VII
SERA AND VACCINES DISTRIBUTED

All supplied by Connaught Laboratories unless otherwise noted.

Immunizing Agents

	Edmonton	Calgary
<i>Diphtheria—</i>		
Diluted Diphtheria Toxoid—1 person	59	49
—c.c. reactors	79	.....
Schick Test Toxin—25 persons	415	456
Toxoid—1 person	406	291
—6 c.c.	118	123
<i>Diphtheria combined—</i>		
Diphtheria and Pertussis—1 person	92	161
—9 persons	22	64
Diphtheria, Pertussis and Tetanus—1 person	5,373	2,961
—9 persons	1,554	927
Diphtheria and Tetanus—1 person	1,538	774
—9 persons	707	420
Diphtheria, Pertussis, Tetanus and Polio—10 c.c.	11,174	.....
Diphtheria, Tetanus and Polio—10 c.c.	2,303	.....
<i>Enteric—</i>		
Typhoid-Paratyphoid—1 person	179	328
—10 c.c.	532	116
<i>Enteric combined—</i>		
T.A.B.T.—3 c.c.	901	1,066
—25 c.c.	191	.....
<i>Measles—</i>		
Anti-Measles—5 c.c.	1,142	1,007
Immune Serum Globulin—2 c.c.	1,968	.....
—5 c.c.	2,507	.....
<i>Rocky Mountain Spotted Fever (Lederle Lab.)—</i>		
3 c.c.	19	5
50 c.c. ....	.....	2
<i>Smallpox—</i>		
1 point	3,756	2,829
10 point	7,844	3,800
<i>Staphylococcal Infection—</i>		
Staphylococcus Toxoid—2 c.c.	716	316
<i>Tetanus (see Diphtheria and Enteric combined)—</i>		
Tetanus Toxoid—1 person	3,014	2,962
—30 c.c.	12	.....
<i>Whooping Cough (see Diphtheria combined)—</i>		
Pertussis Vaccine—1 person	123	401
—9 persons	5	27
<i>Vaccine, other—</i>		
Autogenous Vaccine (Prov. Lab.)—25 c.c.	12	21
Rabies Vaccine—14 c.c.	15	.....
Rabies Anti-Serum—1,000 units (Lederle Lab.)	4	.....
Poliomyelitis Vaccine—10 c.c.	33,398	.....
T.A.B.T.D.—25 c.c.	14	.....

Therapeutic Agents

	Edmonton	Calgary
<i>Diphtheria</i> —		
Antitoxin—1,000 units	169	65
—40,000 units	78	36
<i>Gas Gangrene</i> —		
Antitoxin—10,000 units (Connaught Lab.)	395	382
<i>Scarlet Fever</i> —		
Antitoxin—3,000 units (vial)	23	7
<i>Snakebite Antivenin</i> (John Wyeth & Bros. Ltd.)—		
15 c.c.	3	.....
<i>Staphylococcus</i> —		
Antitoxin—10,000 units	16	19
—20,000 units	54	31
<i>Tetanus</i> —		
Antitoxin—1,500 units	1,867	2,748
—20,000 units	115	114

TABLE VIII

MINIMUM COMMERCIAL VALUE ASSESSED FROM RECOMMENDED PROVINCIAL SCALES

Examination	Edmonton	Value	Calgary	Value	Total
Diphtheria	5,424	\$ 5,424	1,533	\$ 1,533	\$ 6,957
Enteric-dysentery	6,071	12,142	2,933	5,866	18,008
Fungus infections	3,238	9,714	688	2,064	11,778
Intestinal parasites	392	392	188	188	580
Naso-pharyngitis	10,534	10,534	1,775	1,775	12,309
Tularemia serology	1,528	764	693	347	1,111
Tuberculosis	12,648	25,296	2,353	4,706	30,002
Undulant Fever serology	1,528	764	693	347	1,111
Whooping Cough	60	120	24	48	168
Animal inoculations					
(Other than T.B.)	156	468	59	177	645
Antibiotic etc. sensitivities—					
disc	157,887	31,758	51,156	10,231	41,989
tube	24	24	110	110	134
Blood cultures	1,230	2,460	156	312	2,772
Leptospirosis	313	624	.....	.....	624
Miscellaneous	20,663	20,663	5,516	5,516	26,179
Paul Bunnell test	941	1,882	437	874	2,756
P.M. Bacteriology	219	438	.....	.....	438
Referred cultures	476	952	46	92	1,044
Special investigations	7,556	22,668	51	153	22,821
Trichomonas	8,698	8,698	296	296	8,994
Virus infections	3,304	no charge allocated	.....	.....	.....
Chancroid, etc.	4	8	.....	.....	8
Gonorrhoea—					
smears	2,919	2,919	6,487	6,487	9,406
cultures	9,347	9,347	325	325	9,672
Syphilis	118,235	236,470	42,239	84,478	320,948
Food Products	58	116	87	174	290
Milk and Cream	187	374	608	1,216	1,590
Water	12,895	25,790	7,787	15,574	41,364
Utensils .....	.....	.....	.....	.....	.....
Diagnostic cytology—					
blood smears	164	328	201	402	730
cervical smears	329	658	.....	.....	658
bone marrow	179	358	4	8	366
fluids	555	1,665	908	2,724	4,389
Routine diagnostic					
histology	21,551	86,204	6,460	25,840	112,044

Routine autopsy histology	9,166	36,664	477	1,788	38,452
Referred diagnostic histology	39	156	.....	.....	156
Pregnancy Diagnosis—					
Frog test	690	3,450	.....	.....	3,450
Rabbit test	15	75	.....	.....	75
	419,222	\$560,367	134,260	\$173,651	\$734,018

**Report of Mr. C. E. Noble, Provincial Analyst, and
Director of the Industrial Laboratories**

I would give the following report for the Department of Provincial Analyst and Industrial Laboratories for the year April 1st, 1959 to March 31, 1960.

In the 1959-60 year ending March 31st, 1960, the Department of the Provincial Analyst and Industrial Laboratories carried out 11,314 analyses. Included are analysis of materials for the various Government departments such as the Attorney General, Agriculture, Health, Highways, Lands and Forests, Mines and Minerals, Provincial Secretary, and Public Works, and also for the University of Alberta. Control analyses on malt liquors was made for the Liquor Board, and the Breweries inspected. Also analysis was made of stock liquors and on complaint samples.

Chemical examinations were made for the Provincial Coroner, hospital pathologists and doctors. Necessary court evidence was given when required under the Dominion and Provincial Acts.

Exhibits from the various Police Departments in the Province were examined physically and chemically, and court evidence was given as required.

Specimens from the Veterinary Laboratory were examined and analysed, and the number of different poisons increase each year. The commercial work is still decreasing as commercial laboratories take over that work, the difficult types are more frequently done in this laboratory.

As in the past, help and advice was given to Alberta prospectors when requested.

The Engineering testing work decreased, while the Health and such government work increased.

The variety of the work of the department continues to increase, as research put new products into use. This was especially noticeable with regard to poison specimens and medicine. Thus even with no increase in sample numbers the amount of work done on submitted samples continues to increase.

Examinations and Analyses

Aluminum	2	Cement	3
Asbestos	2	Chemicals	6
Barytes	6	Chlorine Compounds	2
Bentonite	16	Cigarettes	2
Bearings	4	Clay	44
Blankets	5	Cinders	1
Blood	694	Cleaners	17
Bottle	14	Cloth	162
Brain	54	Coffee	3
Bread	2	Coke	1
Brass	1	Concrete	22
Brewer's Grain	1	Cranberries	21
Brick	1	Cream	1
Brine	3	Deposits	41
Calculi	25	Detergent	3
		Dishes	1

Disinfectant	2	Oil (Lubricating)	1
Drapes	8	(Fuel)	5
Dust	3	Ore	221
Earth	6	Paint	11
Feed (Animal)	55	Paper	32
(Poultry)	12	Picture	4
(Concentrates)	30	Pills	23
Food (Human)	68	Plants	4
Fruit	9	Plastic	3
Fungus	2	Plaster	10
Furs	1	Poison Exhibits (Misc.)	18
Galena	4	(Human)	411
Gasoline	9	Police Exhibits	104
Glass	11	Potatoes	2
Glass Beads	6	Powder	7
Glauber's Salts	6	Pyrite	7
Glue	2	Putty	3
Glycol	2	Quartz	24
Grain	2	Quicklime	3
Gravel	26	Rape Seed	1
Gold	3	Rock	213
Gypsum	6	Salt Bath	8
Hair	2	Sand	111
Ham	2	Sandstone	1
Honeycombe	2	Schist	1
Industrial Chemicals	1	Sediment	9
Insecticides	7	Serum	2
Insects	7	Seed	2
Iron	2	Shale	38
Iron Ore	27	Shrimp Chips	7
Lead	3	Silica	3
Lime	8	Sludge	4
Limestone	114	Soap	20
Liquid	18	Sodium Fluorine	1
Liquor (Detailed for ALCB) ...	123	Soils	128
(Malt of ALCB)	1,084	Solvents	4
(Police Samples)	150	Solutions	3
Lung	6	Syringes	17
Machine Parts	4	Steel	19
Marl	3	Stomach contents	34
<i>Engineering Materials</i>		Stucco	3
Concrete Cylinders	953	Stocking	1
Current Transformers	1	Strychnine	3
Electrician Gloves	471	Sugar	1
Hot Line Jumper	1	Sulphate	9
Instruments	37	Sulphur	15
Meat	16	Talc	1
Medical Compounds	8	Thermometer	1
Metal	12	Tuffa	1
Metals Ties	12	Urine	112
Mica	3	Veterinary Laboratory	894
Milk	12	Volcanic Ash	1
Mineral Supplement	2	Water (Sanitary)	3,999
Miscellaneous	38	(Poison)	28
Molasses	2	(Industrial)	5
Money	2	Wax	23
Mud	2	Wood	12
Mushrooms	1	Lightning Arresters	100
Narcotics	2	Rubber Blankets	7
		Rubber Line Hose	7
		Transformer Oil	3

Date Due

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